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Manufacturers Record

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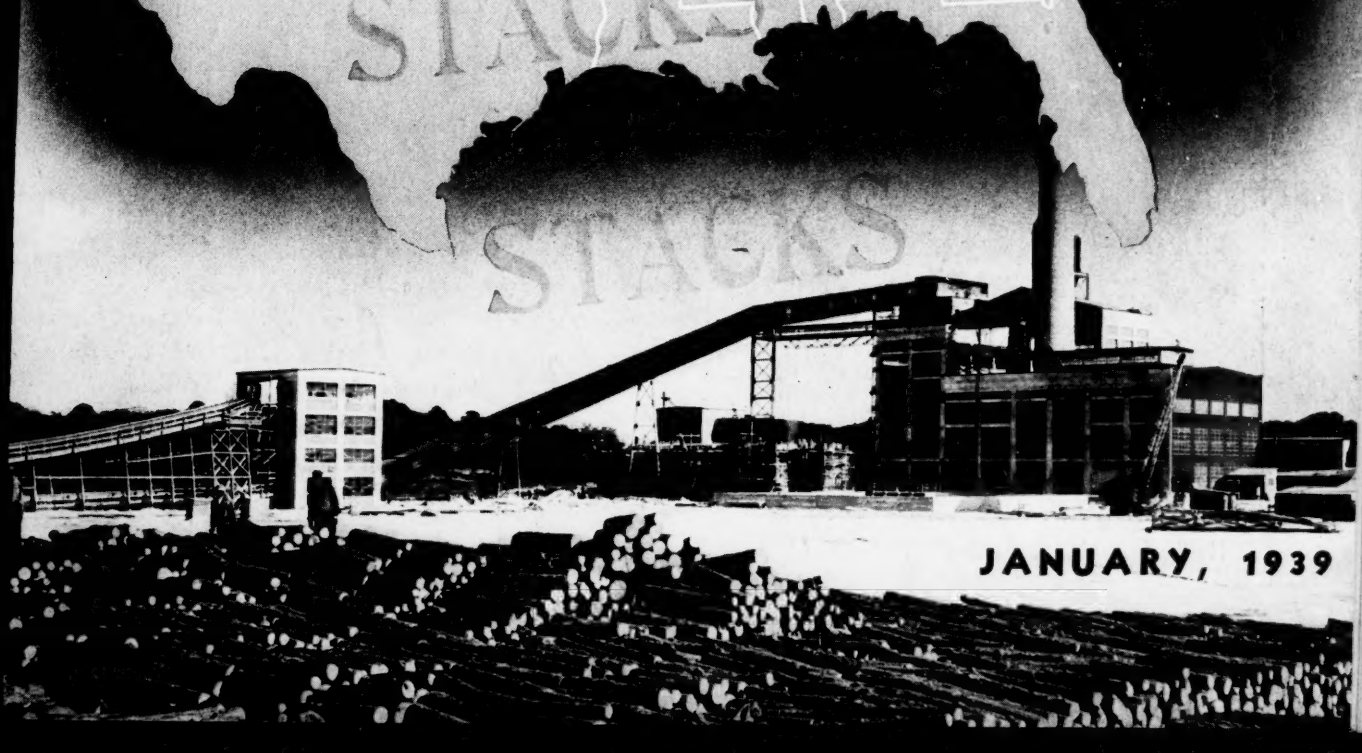
HERE IS OPPORTUNITY

THE SOUTH'S RAW MATERIALS, ITS UNEQUALLED CLIMATE, ITS POWER AND TRANSPORTATION FACILITIES AND AMERICAN LABOR MAKE THIS SECTION AN INDUSTRIAL FRONTIER OF OUTSTANDING OPPORTUNITY



JANUARY, 1939

XUM

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This exclusive Grinnell hydraulic extruding machine permits welded outlets to be made with plain circumferential butt welds — the strongest and easiest welds to make. It is part of the equipment which means better prefabrication from Grinnell.

Interpret Grinnell's facilities in terms of *equipment* like the above . . . in terms of *men* — qualified pressure-welders whose work readily passes insurance requirements . . . or in terms of three *plants,* conveniently located to serve the continent . . . and these facilities will prove the wisdom of your decision to "Give the plans to Grinnell!" Grinnell Company, Inc., Executive Offices, Providence, R. I. Branch offices in principal cities.

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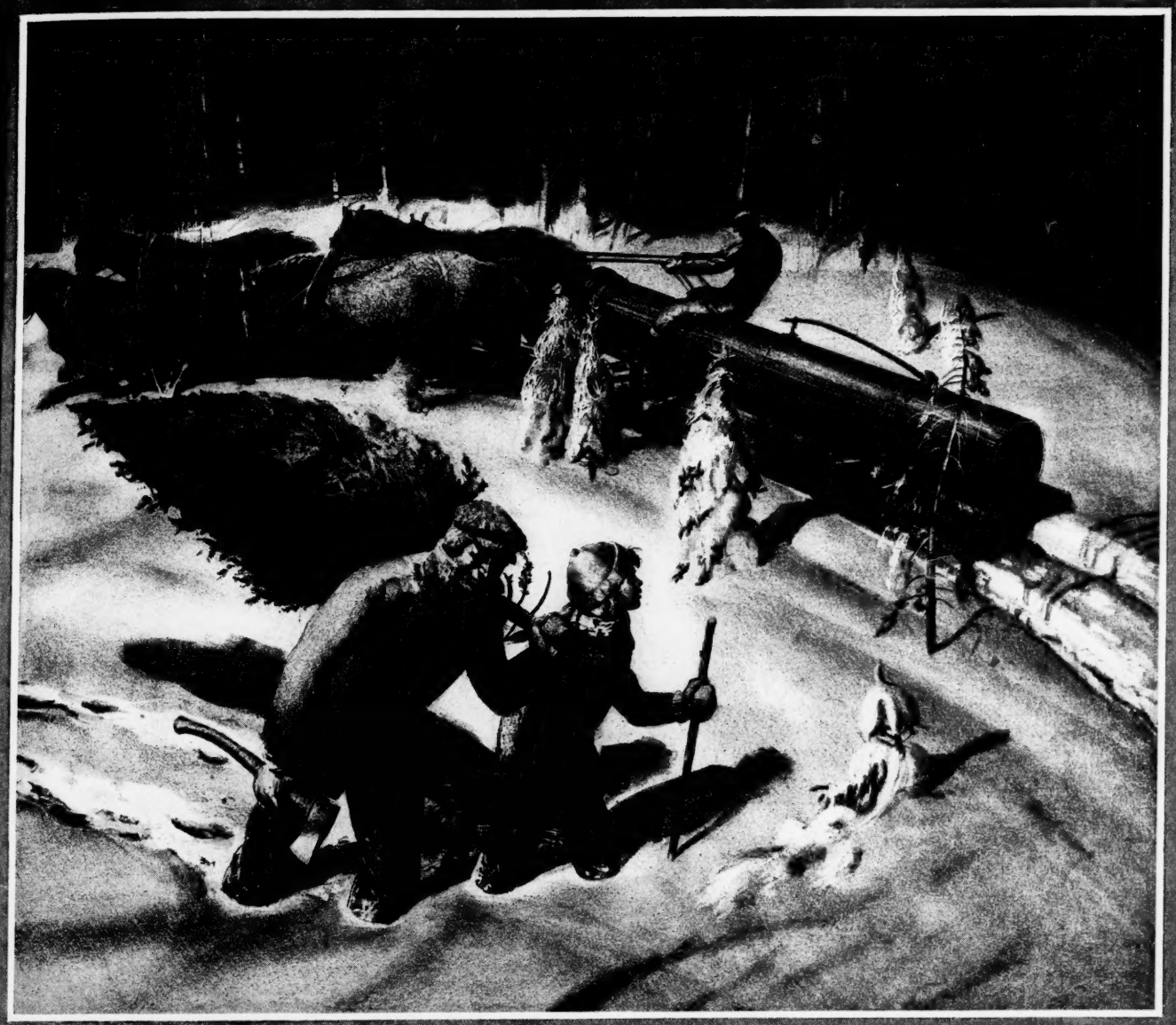

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Beginning the eighth year of cumulative evidence that Super-de Lavaud Cast Iron Pipe, produced by a revolutionary method whereby gray iron is *centrifugally cast in a metal mold without chill,* has extraordinary toughness, ductility and resistance to impact.

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cast iron
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Plants and Sales Offices throughout the United States.

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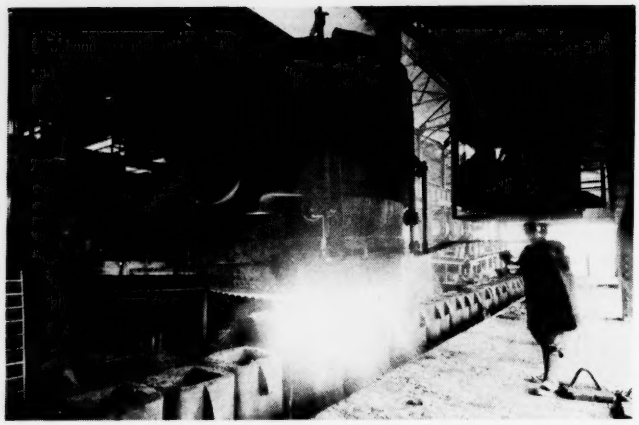

One of the two new 150-ton furnaces by which Republic Steel has increased its total open hearth ingot capacity at their Gadsden, Alabama, plant from 28,000 to 50,000 tons per month.

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Volume CVIII No. 1

1939
TP 670 v.108

MANUFACTURERS RECORD

Devoted to the Upbuilding of the Nation Through the Development of the South and Southwest as the Nation's Greatest Material Asset

Published Monthly

by the

MANUFACTURERS RECORD PUBLISHING CO.

Frank Gould, President

Main Office: Manufacturers Record Building, Commerce and Water Streets, Baltimore, Md. Phone: Plaza 7080-1.

Branch Offices:
New York—11 W. 42nd St. Phone: Longacre 5-7180
Chicago—28 East Jackson Blvd., Room 1510
Phone: Harrison 5867

SUBSCRIPTION RATES

Manufacturers Record .....$2.00 a year

Combination of Manufacturers Record with
Construction Daily Bulletin ....$11.00 a year
With Construction Monthly ....$3.00 a year

Single copies, 25c—back numbers, one to six months, 50c—over six months, $1.00.

PUBLISHERS OF CONSTRUCTION AND BLUE BOOK OF SOUTHERN PROGRESS

Member A.B.C.

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FEB 27 1940
N. A

XUM

400 Miles of Steel... to light your Cigarette

THAT book of matches in your pocket would fall apart except for that inconspicuous piece of stapling wire. *It takes approximately 444 miles of that wire every day to supply the enormous demand for book matches.*

Steel is even more important in almost every act of your daily life. Many food delicacies come to you in tin plated steel cans and are cooked on a steel range; the modern plumbing and heating of your house would be impossible except for steel; your clothes, glasses, watch, shoes.... all contain vital steel parts; you probably travel in a steel automobile or train to a steel framed office building or factory, to work at a steel desk or machine.

All the comforts and conveniences of modern life, which have come to be considered necessities, have been made possible by modern refinements in steels. Such refinements in steels do not just happen .... Youngstown maintains a great laboratory and an experienced organization, always working with customers to find the steel best suited to their needs and products.

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HERE IS OPPORTUNITY

This issue of the MANUFACTURERS RECORD is noteworthy by reason of the articles it presents from authorities reviewing the progress made in basic industrial lines of the Southern states. To the thoughtful reader they will appeal as an illuminating history of what has taken place in the year just past, and as showing the foundation for future growth. There can be no doubt of the opportunity and the incentive for greater things.

For nearly sixty years the MANUFACTURERS RECORD has been telling of the unparalleled resources nature has given the Southern states of America. While progress has been delayed to some extent because of the prolonged depression, the record here is far better than that of less favored areas. It is a record that cheers the South and should cheer the country, especially when there is considered the great store-house of undeveloped material which, although notable progress has been made in its development and industrialization, is still hardly touched. These resources mean not only creation of new wealth in vast amount for the South, but as the South prospers and increases its wealth, the wealth of America is increased.

It has been said before and is worth repeating again and again that the South is the greatest undeveloped asset of the nation. Its climate for longer working days under favorable conditions and for health is incomparable. Its soil for the farmer and for the chemist is unequalled in its possibilities. Its minerals and its forests, while claiming the attention of industries in lines to which we have been accustomed, are making it possible for the chemist to do his magic work here as nowhere else, and as a result there is being born a giant industry in new lines; industry that widens the market for farm crops and creates millions out of by-products that not long ago were regarded as worthless. Thus there is brought about new enterprise which employs the activity of brain and hand for the betterment of the race.

Business has not had a fair chance during the depression and one deplorable effect has been upon young men emerging from colleges and universities after years of study, compelled to face an outlook that has been lacking in the elements of inspiration that normal times afford.

But in this New Year message it is well to convey the thought just as man finds his greatest solace and inspiration in work, so we still can largely make as free Americans our own outlook if we are on guard against those things and those influences which would obscure if not destroy.

XUM

Employment After Forty

THE National Association of Manufacturers has released the results of an unusually interesting survey concerning the status of men over forty in industrial employment. Figures compiled from nearly 2,500 questionnaires addressed to industries employing a total of nearly 2,500,000 workers show that compared with previous surveys of industrial workers in the years from 1923 to 1928, there has been no decline in the proportion of industrial employment at the age of 40.

A special report issued by the Association says:

"It is evident from all information submitted that industry evaluates its older workers very highly. It is apparent that workers 40 and over constitute a vital and dynamic part of industry, their skill and strong loyalties being of inestimable importance in the industrial unit."

Among the interesting conclusions brought out are that 89.1 per cent of companies have no maximum hiring age limit. Also, the survey shows that there is no lessened proportion of employment of workers between 40 and 50, but a slight decrease is shown in employment after the age of 50; 63 per cent of the companies questioned provide group insurance and 10 per cent of the companies have retirement plans. An interesting fact is that the proportion of older workers in 1938 is nearly 20 per cent higher than it was in 1937, indicating preference in the retention of workers being given to those of 40 and over.

The American Cotton Situation

THE MANUFACTURERS RECORD on numerous occasions has made reference to the seriousness of our cotton dilemma and particularly our position in world trade, and the figures recently released by the International Cotton Bulletin give emphasis to the situation.

During the six months ending July 31, 1938, consumption of American cotton by the world's mills declined 614,000 bales from the amount consumed in the previous six months. Of this amount, consumption by United States mills alone declined 395,000 bales, having dropped from 3,005,000 bales to 2,610,000 bales.

It is true that East Indian cotton also suffered a heavy loss of 469,000 bales and even Egyptian cotton took a loss of 48,000 bales, and the total world consumption fell from 13,424,000 bales to 12,669,000 bales, but the most significant fact is that the consumption of all other cottons together increased. *These cottons increased 374,000 bales,* or from 3,884,000 bales to 4,258,000 bales. Another significant fact is that of the 15,137,000 bales of all cottons consumed by all mills during the year ended July 31, 1937, American cotton comprised over 45 per cent, but the percentage dropped to 40 per cent in the year ending July 31, 1938.

In other words, of the 2,468,000 bale decline in world mill consumption, American cotton with a loss of 1,674,000 bales suffered over 53 per cent of the loss while supplying only 40 per cent of the consumption.

Opinion may differ about where this will lead but it is clear the situation will not be helped by government insistence on subsidization.

In the cotton textile industry the estimated number of spindles in the United States of various kinds has not changed very materially. It is interesting and important that among the nations of the world whose spindles have increased, the most noticeable are Germany, Italy, Japan and Japanese-dominated China. An indication of the trend in other countries can be seen in the assertion that Turkey is building a textile industry with the intention of achieving self-sufficiency and has increased the number of spindles from 94,000 in 1932 to 232,000 in 1937, and the number of cotton looms from 1,200 to 4,680.

A Lot To Do

THE Seventy-Sixth Congress now in session has a lot to do and a lot to undo. In the political process which has been described as "magnifying a depression into a revolution," old proven rules of government and business practice have been pushed aside—some ruthlessly.

Laws regulating many kinds of corporate and individual activity were rushed through previous congresses while appropriations of money, so vast the country is still unable to grasp their extent, were made in carrying out the purpose of spending our way to prosperity. Of course, it didn't work any more than the alphabetical absurdities in the shape of bureaus with impossible control schemes have worked. They couldn't work because "supply and demand" remains an immutable law.

This Congress was elected to do a lot of undoing. Its responsibility is to translate into action the desire of the country that laws that hamper business be amended or thrown out. The United States is anxious to move forward as only the United States can. It is up to Congress.

Commercial Loans

COMMERCIAL loans have not increased in spite of low rates of money. We have had for several years call money and time money at record low points and bankers naturally hope as business improves bank accommodations will be in greater demand. There can be little doubt that the expectation will be realized when business decides to expand, and that depends on confidence expressed in demand for goods.

The Advantage of Southern Labor

THE Cotton Manufacturers' Association of South Carolina, in calling attention to one of "the influencies which drove the textile industry out of New England into the South," says that labor unrest is aggravated by drastic labor legislation and radical labor leadership and adds: "South Carolina is fortunate in that most of its citizens are American-born and from the same Anglo-Saxon stock. There has existed here a comparative industrial peace which has been a great blessing to our state. * * * Thus we have for thirty years enjoyed large, steadily growing payrolls."

The MANUFACTURERS RECORD frequently has called attention to the small percentage of foreign stock making up the population of the South in contrast with the rest of the country. The records show that in the Southern states as a whole, the percentage of foreign stock (that is, born abroad or one or both parents born abroad) is 8.81 as in contrast with 43.23 in the remainder of the United States. Here we have a bulwark for industry, a bulwark for American liberty as opposed to radicalism and an autocratic state in which the individual's ambitions and success are submerged. The efforts to advance subversive ideas inimical to progress as Americans know it have met with small success in this section so far, but in view of the headway made elsewhere by radical influences there appears a constant menace to peace and industry.

1938

THE year just closed started with optimism at a low point and while it is not bubbling over yet the latter part of the year saw a definite change for the better. Every business requires an outlook, and the November elections turned men's thoughts from gloom to hope. Business cannot be dealt with as it has been by the Government in the last few years and be expected to proceed at a normal rate.

A Mistaken Viewpoint

CHAIRMAN ECCLES of the Federal Reserve System said in a letter to Senator Byrd of Virginia which has been published. "I think the individual whether rich or poor, has a right to a decent place to live. I think he has a right to security in old age and to protection against temporary unemployment. I think he has a right to adequate medical attention and equal educational opportunities with the rest of his countrymen. The government expenditures which you condemn have in large part been the means of translating these basic rights into realities. Anyone who is genuinely sincere in his concern about the rights, the dignity, and the character of the individual citizen, far from seeking to tear down what has already been done, will want to have a hand in expanding and improving this work for the future."

Now the word "right" as used in this statement is a strong word—it conveys a meaning which, while impossible under America's present form of government, nevertheless is sinister in its implication. It sets before us something that is assumed to be inherently due and can be demanded if not paid. Hence, the demand may be made not because of merit but as a "right" of citizenship.

Government is the only source through which such supposed "rights" could be met and government could meet them only by laying a greater burden of taxes on those who work. The man who won't work would have this "right" as well as the industrious, the immoral as well as the moral, the faithless and incompetent as well as the faithful and competent.

Strikes

THE total number of strikes reported by the Labor Department for 1938 was 1808, as compared with 4027 in 1937.

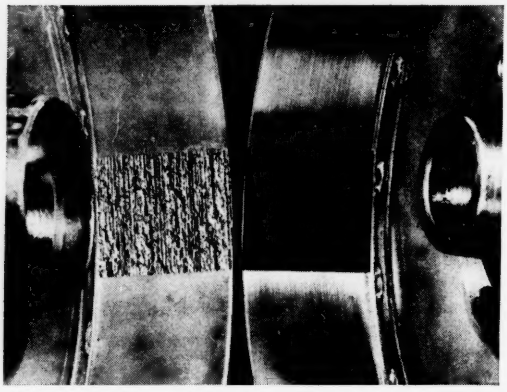
The figures are encouraging. They indicate a turning from radical leadership to sanity. Intelligent American labor always has recognized its share in the responsibilities of private enterprise but for a while in the recent past it looked as if the radical foreign element had gained the upper hand in its attempts to destroy.

XUM

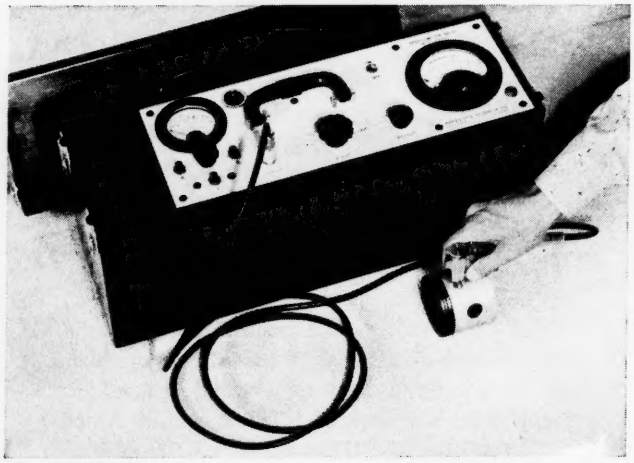
What about the new finishes

ALL industry is interested in the new method of producing superfine finishes on metal. Finishes so nearly perfect that moving parts such as bearings, cylinders, pistons and cams are made literally *wear proof!*

Using special abrasive stones such as the Carborundum-made stones shown on next page, this new process is both economical and rapid. Production of an almost perfect finish seldom takes over 30 seconds.

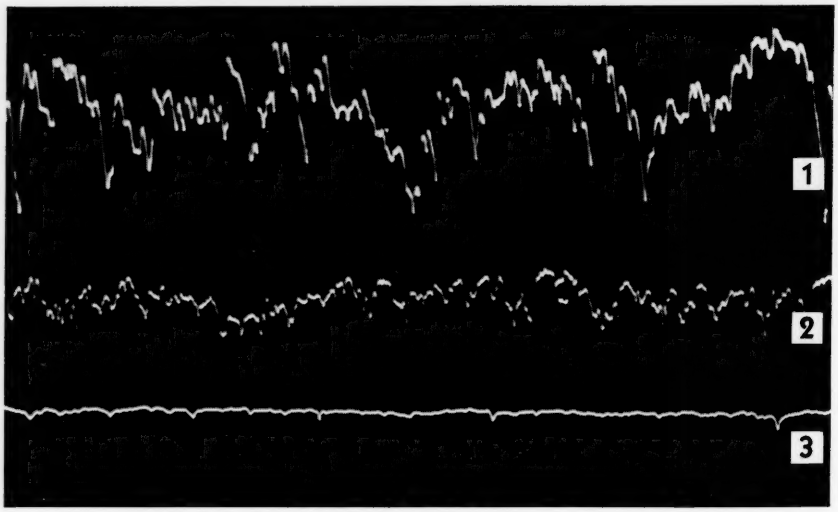


YES, BOTH ARE BRAKE DRUMS. *The center section of each drum is an enlargement to show surface characteristics. The drum on the right has a Chrysler "Superfinish" which gives smooth soft pedal action. Compare with ordinary brake drum surface on the left!*



MILLIONTHS OF AN INCH (microinch) ARE EASY *to measure with the new Profilometer. This new scientific instrument was developed for the speedy measurement and comparison of surface irregularities.*

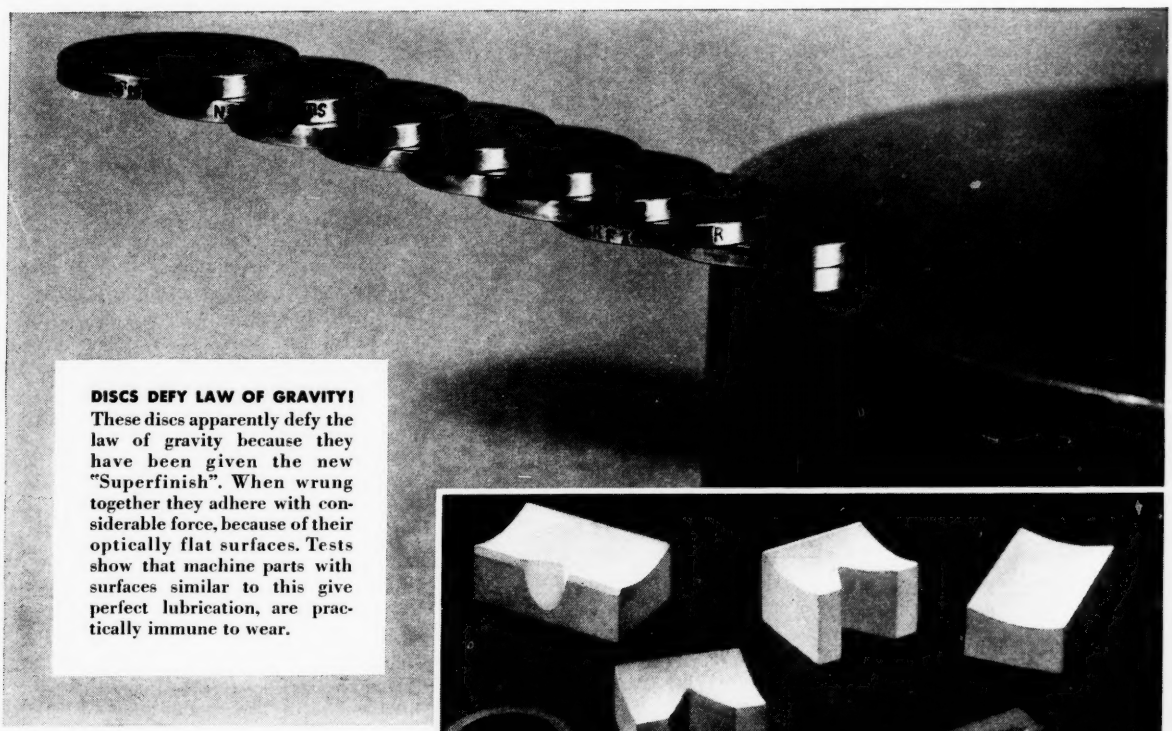
Production of the new wear proof finishes requires the use of abrasive stones that are carefully manufactured and uniformly of the correct grain, grit or grade. For this reason, users of the new process have turned to The Carborundum Company, because of its years of experience in the manufacture of the highest quality abrasive products. The production of superfine wear proof finishes is one place where you cannot take chances with ordinary or inferior abrasives.



STARTLING COMPARISON!

Profilograph No. 1 shows you the surface of a wrist pin that has been rough ground. Average roughness as determined by the root—mean—square method is 20 millionths of an inch. No. 2 shows a pin after finish grinding: Average roughness is 6.9 millionths of an inch. Profilograph No. 3 represents the surface of a pin that has been given the new wear proof finish. An average roughness of only 1 millionth of an inch reduces wear to the vanishing point. (In each case the magnification is 10,000 vertical and 100 horizontal.)

for wear proof surfaces?



DISCS DEFY LAW OF GRAVITY! These discs apparently defy the law of gravity because they have been given the new "Superfinish". When wrung together they adhere with considerable force, because of their optically flat surfaces. Tests show that machine parts with surfaces similar to this give perfect lubrication, are practically immune to wear.

Carborundum engineers are well abreast of all new finishing developments and are in a position to tell you frankly and fairly their various advantages. If you are one of the thousands of manufacturers who are looking forward to increasing sales and profits with this new process, we invite you to get in touch with us. The Carborundum Company is equipped to manufacture all varieties of abrasive stones and wheels employed in these processes and can supply samples for test work.

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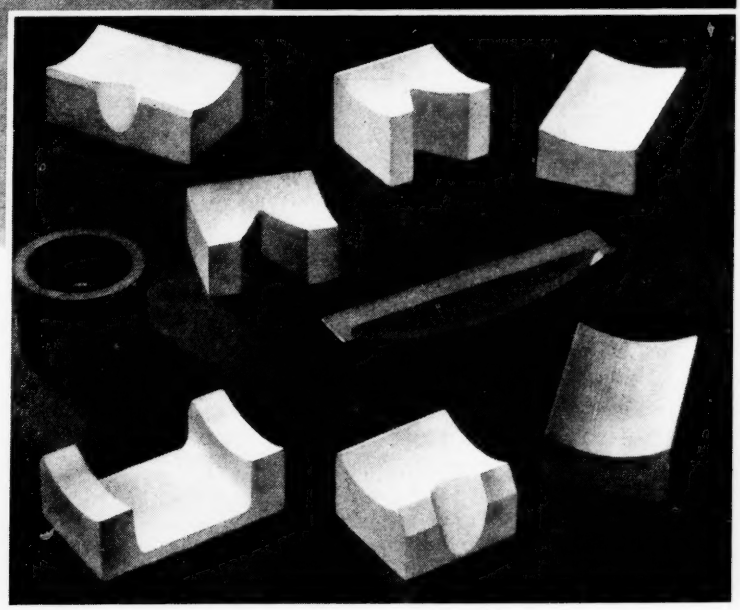

ABRASIVE BLOCKS SUCH AS THESE *play an important part in the production of wear proof finishes. The blocks must be accurate, uniform and of exactly the right grade, grit and bond. You know that every block will be right if it is manufactured by Carborundum. The blocks and wheels illustrated are only a few of the many shapes and sizes necessary for the production of various wear proof finishes. Each particular job requires special shapes and abrasive specifications.*

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The Steel Industry In 1938

The sharp decline in general business in 1938 was reflected in the reduced output of steel mills in the South. The production of the South, however, held up better than that of any other region.

Total open hearth and Bessemer steel ingot production in the entire country dropped from 49,503,000 gross tons in 1937 to an estimated total of approximately 28,000,000 gross tons in 1938, a reduction of 43 per cent. In the Southern district, production declined from 1,898,000 gross tons in 1937 to an estimated total of 1,390,000 gross tons in 1938, a drop of only 27 per cent. These figures are based on the output for the Southern district, as defined by the American Iron and Steel Institute, which includes the twelve states south of Maryland, West Virginia, Kentucky, Missouri and Kansas.

Production in the entire country during 1938 approximated 40 per cent of capacity as against 72 per cent for 1937. The steel mills of the South averaged approximately 60 per cent of capacity as compared with approximately 80 per cent in 1937. The output of the country in 1938 declined almost to the level of 1934, whereas the output of the South in 1938 exceeded the 1,033,000 gross tons produced in this district in 1935, and came within 200,000 tons of the total of 1,590,000 gross tons produced in 1936.

The course of operations in the steel industry as a whole in 1938 was the reverse of that for the preceding year. In 1937 output slumped sharply to 41 per cent in the final quarter, after averaging 83 per cent of capacity in the first nine months of the year. In 1938, the year began with operations at a deeply depressed level. Operations averaged only 31 per cent of capacity in the first six months; moved up to 41 per cent in the third quarter; and in the final quarter, rose to an estimated average of approximately 57 per cent of capacity, recording the sharpest upturn for this period of any year since 1921.

Operations in the South showed remarkable stability in 1938 in comparison with other districts. As against the year's low of approximately 28 per cent of capacity, for the nation as a whole, recorded in June, the rate in the Southern district did not drop below the 48 per cent level touched in July. Substantially higher rates were reacted in the last two quarters.

WALTER S. TOWER

Walter S. Tower, executive secretary of the American Iron and Steel Institute, is a native of Massachusetts and was educated at Harvard and the University of Pennsylvania where he received the degree of Doctor of Philosophy. From 1911 to 1917 Dr. Tower held a professorship at the University of Chicago and in 1918-19 was with the United States Commission to Negotiate Peace. Following, he was trade adviser to the Consolidated Steel Corporation of New York and commercial attache of the American Embassy at London, where he remained till the end of 1924. Upon his return to this country he joined the Bethlehem Steel Corporation with which he was associated until 1933.

Because of the reduced volume of business, as well as other factors, operations of the entire steel industry in the first nine months of the year resulted in aggregate losses estimated at approximately $23,000,000. Some probable improvement in respect to the earnings statements for the last quarter may be expected as a result of the better operating rate during this period.

The industry will enter the final year of the current decade with a record of having earned an average of approximately only 1.5 per cent annually on its capital investment during the last nine years. In the ten years from 1920 through 1929, the return averaged 5.5 per cent.

Despite the adverse conditions affecting operations during 1938, wage rates of employees in the South, as well as in all other parts of the country, were unchanged, remaining at the highest level in the history of the industry.

Some reduction in employment and in payrolls in the industry was necessitated by the drop in production, but the losses in these items were not as severe as the decline in output. The number of wage earners for the first nine months of the year was 385,000, compared with 521,000 in the corresponding period of 1937, when a record of employment was established. In the last quarter of 1938, additions to the payrolls were made possible by the improvement in business.

Total payrolls of the industry in 1938 were over $600,000,000, compared with $976,000,000 in 1937, when the record was established.

As compared with a total of 20,490 wage earners in the Southern district during 1937, an average of 16,548 were employed in the first nine months of 1938. In the last three months of the year, employment rose as a result of the gain in operations.

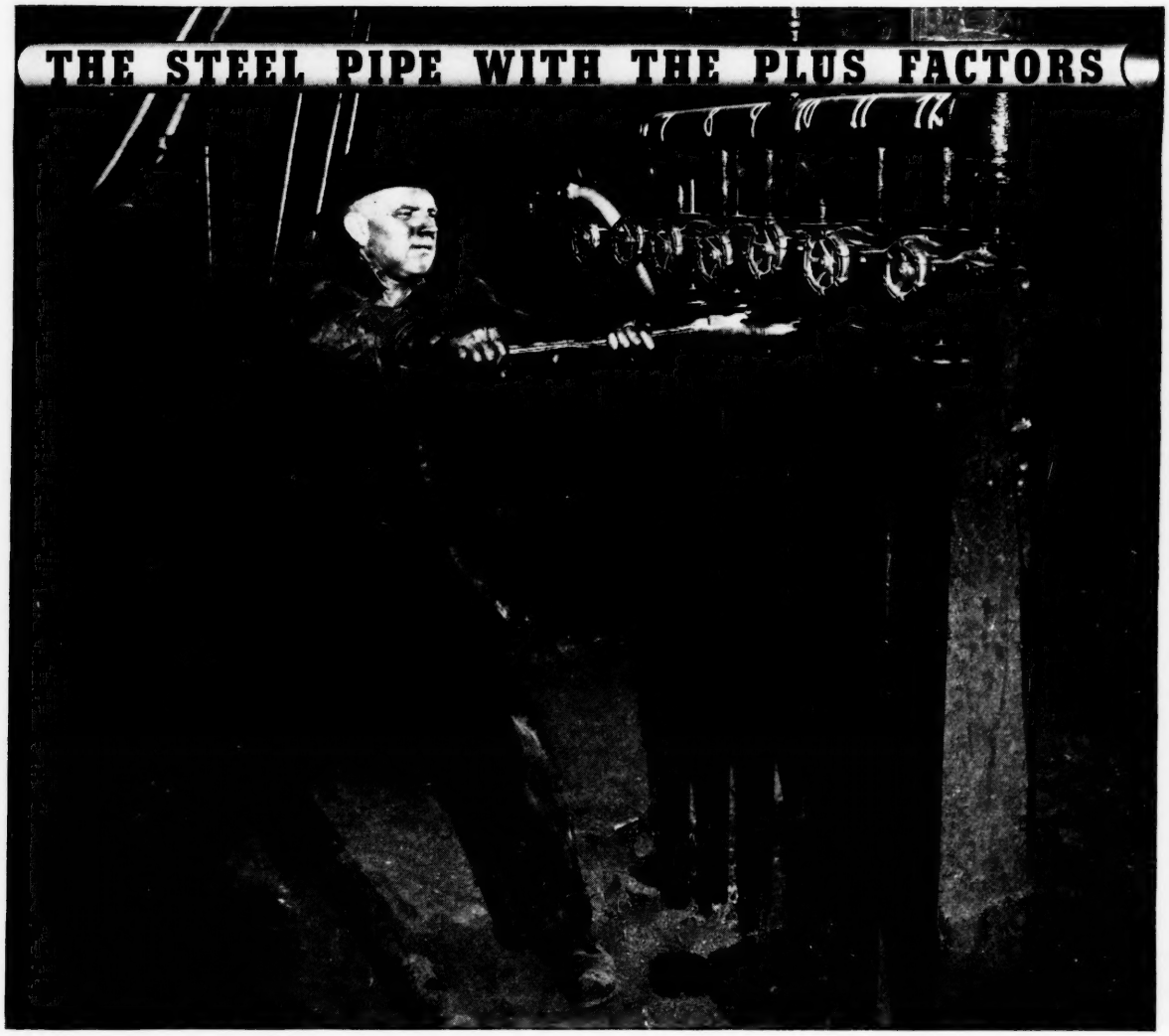
Payrolls of the steel industry in the Southern district are estimated at over $23,000,000 for 1938, as compared with $29,073,000 in 1937.

The upturn in the steel business which came in the latter half of the year had its origin chiefly in the larger demand for light steels such as sheets and strip from the automobile industry. That improvement broadened somewhat as the year progressed. A better demand appeared from oil and gas, structural and some other lines, although the gains were not as large in these departments as in the steels used by automobile companies.

Purchases by the railroad industry remained far below normal. Some encouraging improvement appeared in the construction industry although the demand from this source was still far below the levels which prevailed before 1930.

Despite the maintenance of wage rates at 1937 levels, and the failure of other costs to decline to any important extent, prices were reduced sharply on virtually all steel products during 1938. A development of far-reaching importance was the elimination of price differentials

(*Continued on page* 62)



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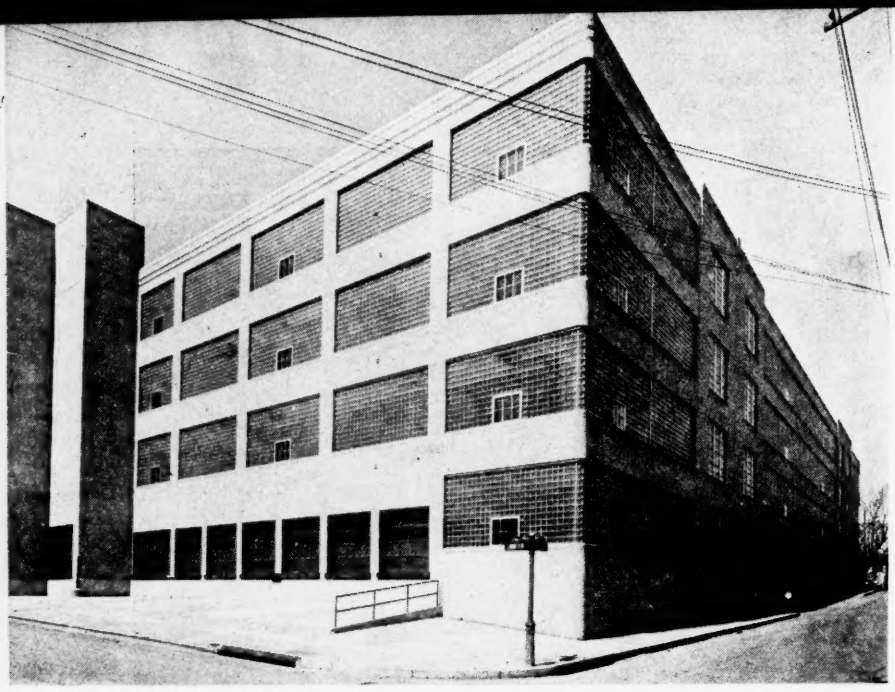
Threads cut clean and true in the soft, ductile steel. Furthermore, you can drive couplings up really tight on Bethlehem pipe.

SOME OTHER BETHLEHEM PRODUCTS OF PARTICULAR INTEREST TO SOUTHERN INDUSTRY:

Wire Rope—made with a "know-how" that means maximum service. **Steel Sheets**—Black and galvanized, flat and formed. **Steel Plates and Flanged Products. Tool Steels**—A complete range, covering every requirement. **Open-Web Steel Joists**—for fire-resistive, shrinkage-free floors. **Reinforcing Steel and Road Steel. Structural Shapes**—Wide-Flanged Sections for heavy construction; Light Sections for economical use of steel where loads are light. **Fabricated Steel Structures of all types.**

BETHLEHEM STEEL COMPANY

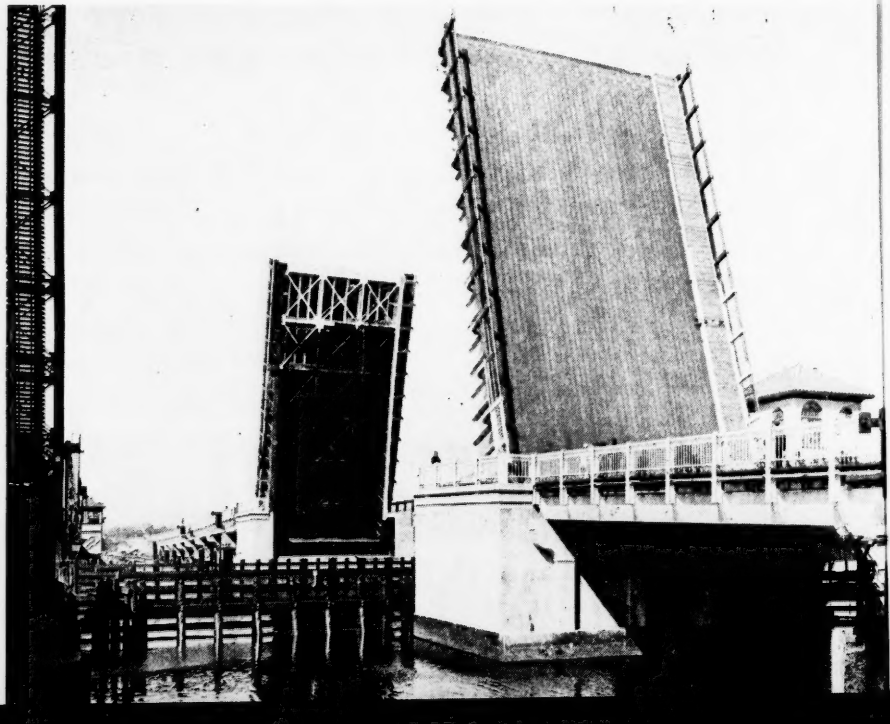
BETHLEHEM STEEL

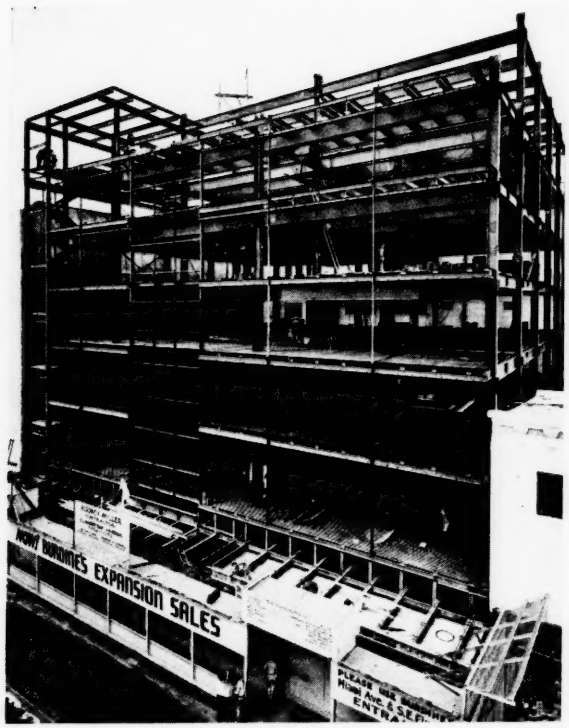


The new plant of Philip Morris & Co., Ltd., Inc., at Richmond, Va. This new building has walls of light cream face brick and greenish glass block with brown terra cotta trimming to enclose the steel frame construction. The basic factor of the building design provides 130,000 square feet of actual manufacturing space.

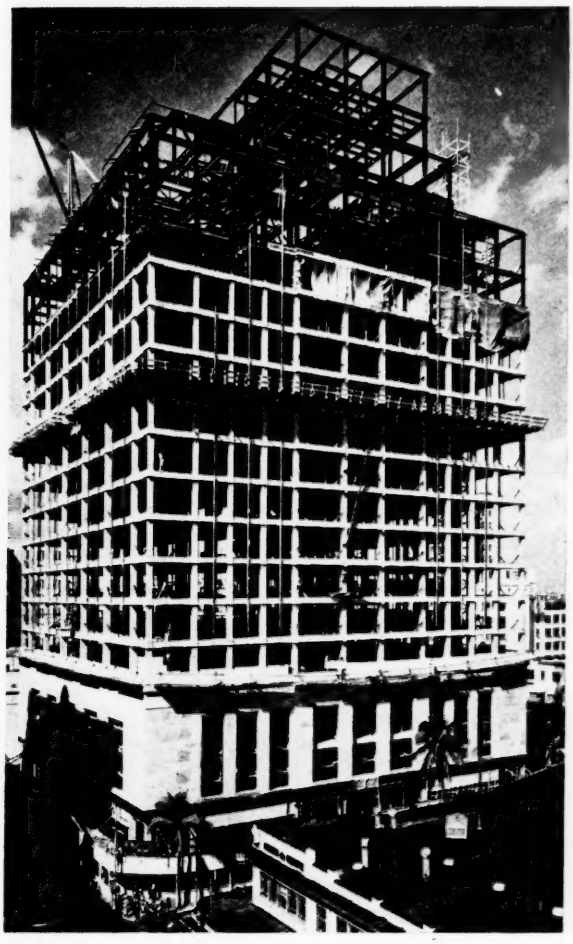
Above—Part of the vast store of Southern coal at the Sparrows Point, Md., plant of Bethlehem Steel Company. Bethlehem annually purchases approximately $13,000,000 of Southern products.

Right—The new $448,504 Gilmerton bridge over the Southern branch of the Elizabeth River at Norfolk, Va., on state highway 299. The project has a total length of over 880 feet including one 125 foot double leaf bascule span, nine 43 foot and four 64 foot steel beam approach spans. Each of the raised leaves is 102 feet 6 inches long.





Above: Burdine Building, Miami, Florida; E. L. Robertson, Miami, Architect; L. B. Taylor, Miami, Structural Engineer; Rodney Miller, Miami, General Contractor.



Right: Alfred I. duPont Building, Miami. Marsh and Saxelbye, Jacksonville, Archts. George A. Fuller Co., New York, Gen'l. Contrs.

More Miami Skyline

Virginia Bridge

STEEL STRUCTURES

And it's Steel, as it generally is when we start skyward. Because Steel is the strongest and most adaptable of all building materials.

Its use carries definite assurance against time and the elements.

VIRGINIA BRIDGE COMPANY

Roanoke Birmingham Memphis

Atlanta New York Dallas

Railways of the South in 1938

In some respects, the most important transportation event of the year 1938 was the preparation and submission to the President of the United States of the report of a committee, containing recommendations on the whole transportation situation in the United States.

The Committee served by informal appointment of the President himself, and consisted of three railroad executives and three railroad labor leaders. Their report was filed at the White House on December 23, dealt broadly with the transportation problem, and recommended a number of items of legislation looking toward improvement of the existing chaotic condition.

The members of the Committee were: W. M. Clement, President, Pennsylvania Railroad; Carl R. Gray, Vice-Chairman of the Board, Union Pacific Railroad; Ernest E. Norris, President, Southern Railway System; George M. Harrison, Grand President of the Brotherhood of Railway and Steamship Clerks, and Chairman of the Railway Labor Executives' Association; B. M. Jewell, President, Railway Employees' Department, American Federation of Labor; D. B. Robertson, President, Brotherhood of Locomotive Firemen and Enginemen. They served on the Committee primarily as men thoroughly familiar with the transportation system, with the needs of the railroads, and with all phases of the situation that call for consideration at the present time.

Railroads of the country leave behind the unhappy events of 1938 and enter 1939 with the sincere hope that the comprehensive recommendations contained in the report of this Committee will be adopted, and that actual steps will be taken in the form of constructive legislation toward a solution of the problems now resting in the path of our rail carriers.

Space limitation permits only barest mention here of the more outstanding recommendations made by the Committee. Chief among these was "adoption by the Government of a national transportation policy providing for fair, impartial regulation of all modes of transportation, so administered as to preserve the inherent advantage of each."

Next in importance was the recommendation for creation of a new and independent agency, a Transportation Board. This Board would take over control, as to all modes of transportation by rail, highway, water, and air, of certificates of convenience and necessity, issuance of securities, and consolidations. It would also be the duty of the Board to investigate "the relative economy and fitness of the several modes of transportation and the extent to which any of them is now being subsidized, with its recommendations for further legislation."

Other recommendations in the report related to a more-clearly defined and uniform jurisdiction of the Interstate Commerce Commission in matters of regulation of the rates and services of all modes of transportation; revision of the rate-making rule; repeal of the long-and-short haul clause of the Interstate Commerce Act; repeal of land-grant rate reductions; extension of the power of the Commission with respect to rates in order to include intrastate rates. The Committee also recommended a system of tolls for waterways improved with Government funds; relief from unjust tax burdens; establishment of a central reorganization court; repeal of provisions of the Interstate Commerce Act dealing with consolidation; legislation liberalizing the lending powers of the Reconstruction Finance Corporation.

Earlier in the year, a committee consisting of Interstate Commerce Commissioners Splawn, Eastman and Mahaffie also handed to the President a report recommending transportation legislation. This report is popularly known as the Splawn Report. The report was transmitted by the President to Congress under date of April 11, 1938. Although Congress was in session nearly two months after receiving the report, no action was taken on any of its recommendations.

Operating Results in 1938

Other important happenings in connection with the railroads in 1938 included the following.

1. Decision of the Interstate Commerce Commission in Ex Parte 123, granting increases in freight rates of a little more than 5 per cent. The carriers asked for, and showed that they needed, an increase of 15 per cent in freight revenue.

2. Reopening of and revised decision by the Commission in the matter of increased passenger fares for railroads in Eastern territory. After first denying the application, the Commission upon reconsideration authorized an increase in coach fares from 2 cents per mile to 2½ cents per mile for an experimental period of 18 months.

3. Granting by the Commission of authority to extend for an indefinite period beyond December 31, 1938, increased bituminous coal rates authorized in 1937 in Ex Parte 115, reopened.

4. Decision by railroads in Southeastern territory to reduce their passenger fares in coaches from 2 cents to 1½ cents per mile, effective January 15, 1939.

5. Report of the President's Emergency Board appointed as a fact-finding body in connection with the wage controversy between railroad manage-

(*Continued on page 48*)

JULIUS H. PARMELEE

Julius H. Parmelee, director of the Bureau of Railway Economics since 1920, first joined the Bureau as statistician in 1911. Prior to that time he was successively on the faculty of Yale University and special examiner for the Interstate Commerce Commission. In addition, Dr. Parmelee was editor of the American Economics Review from 1915 to 1918.

Now! THE PLYMOUTH FLEXOMOTIVE

Model KC 45 Ton Diesel-Powered Plymouth Flexomotive

BUILT FOR TOUGH JOBS PROVED ON TOUGH JOBS*

Here's What You Asked For—

First Cost Way below the diesel-electric type.

Efficiency Way above the diesel-electric type. Perfect visibility for SAFETY.

Ruggedness All welded slab frame. Massive construction.

Maintenance Lowest ever recorded.

Flexibility Instant variation of speeds. Up or down. No sliding gears. No jaw clutches.

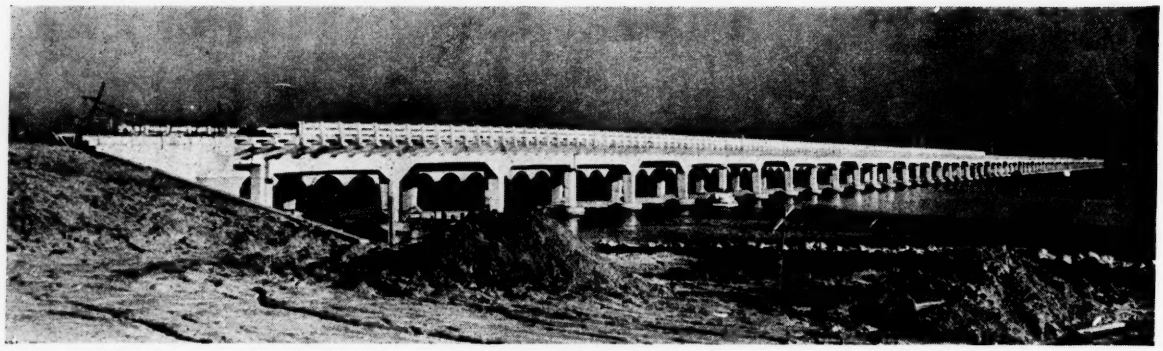
Background Four thousand hours on the toughest jobs that could be found.

Performance Plymouth 45-ton FLEXOMOTIVE out-pulled, out-performed 65-ton steamer on same job. Get the record.

* One of the Plymouth Flexomotives will go into regular classification yard service in January, where it may be seen in action.

PLYMOUTH LOCOMOTIVE WORKS

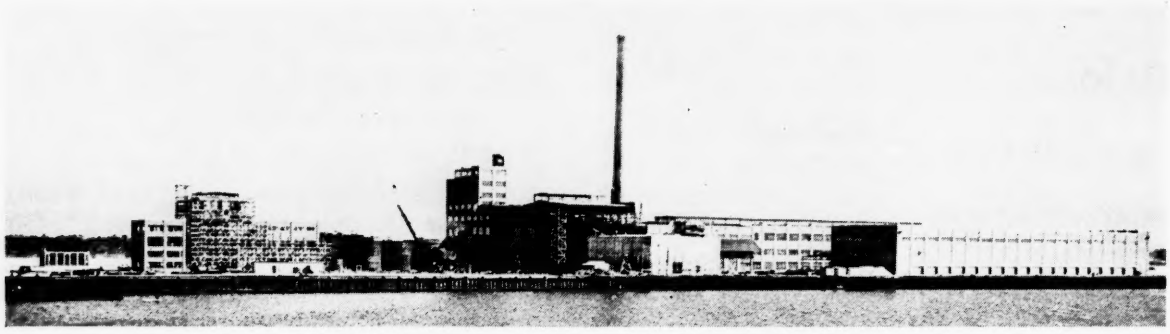
Division of THE FATE-ROOT-HEATH CO., Plymouth, Ohio, U. S. A.



Extending from Virginia Point, on the Texas mainland, to the island-isolated City of Galveston across the bay, the causeway shown here parallels an old structure and carries four lanes of vehicular traffic for 8,194 5/10 feet to feed into Texas' 22,058-mile state highway system.

Right—A truly Southern structure is the $2,000,000, 17 story Alfred I. du Pont building at Jacksonville, Fla. It is faced with Alabama limestone, has Virginia greenstone spandrels, and the marble came from Tennessee.

Bottom—One of the South's newest pulp and paper plants is the St. Joe Paper Co. mill at Port St. Joe, Fla. Built at a cost of $7,500,000 it has a production capacity of 275 daily tons of board. The 4,000 foot dock has 30 feet of water at mean Tide and Piers provides deep water shipping facilities of the finest.



TANKS for the Storage of Gas

The Hortonsphere at the right is 40 ft. in diameter. It was recently installed at the municipally operated gas plant in Tallahassee to store gas at 60 lbs. per sq. in. pressure.

A pressure holder of this type is considerably smaller than a low pressure holder of the same capacity. The spherical-shaped structure is pleasing in appearance. There are no operating parts to require maintenance.

With pressure storage, gas can be turned into the distribution mains as required to maintain uniform service. This is particularly desirable where there are large industrial users or areas of heavy demand in the system.

HORIZONTAL tanks with hemispherical ends are also used to store gas under pressure. The one at the left was installed for the Peoples Water & Gas Company at Fort Lauderdale, Fla. It is 32 ft. in diameter by 88 ft. long and is also designed for 60 lbs. per sq. in. pressure.

Write our nearest office for information on tanks for the storage of gases or liquids. We also fabricate and erect steel bins and steel plate work of all kinds.

CHICAGO BRIDGE & IRON COMPANY

Birmingham .....1530 North Fiftieth Street
Dallas .....1408 Liberty Bank Bldg.
Houston .....2919 Main Street
Tulsa .....1611 Hunt Bldg.
New York .....3313-165 Broadway Bldg.
Cleveland .....2216 Rockefeller Bldg.
Chicago .....2106 Old Colony Bldg.
San Francisco .....1040 Rialto Bldg.
Philadelphia .....1619-1700 Walnut Street Bldg.
Detroit .....1510 Lafayette Bldg.
Boston .....1510 Consolidated Gas Bldg.
Havana .....Edificio Abreu 402

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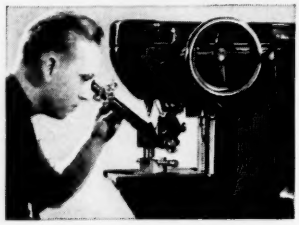
Plants in BIRMINGHAM, CHICAGO and GREENVILLE, PA.

XUM

300,000 OPERATIONS

AND STILL IN GOOD WORKING CONDITION

This veteran served five years on a heat recovery line, being partially opened and closed every four minutes seven hours a day for five years—exceptional service even from a valve of exceptional quality. A tribute to the practical applications of Crane research.



". . to unearth new facts"

Recently, the newly completed Crane Research Laboratories, housing the largest and best equipped research facilities in the industry, were opened to public view. In the foreword of a booklet published on this occasion, President Charles B. Nolte says:

"Research is misunderstood by a great many people, but in its simplest form it may be defined as an organized and diligent application of existing knowledge to unearth new facts. . . . Crane Co., therefore, is dedicated to the philosophy that only through continuing a well-organized program of research can it best serve its employees, its stockholders, the users of its products, and society in general."

TRANSLATING RESEARCH INTO DOLLARS FOR YOU

Crane research has as its objective the saving of dollars in your plant operation—the improvement of those valves and fittings whose responsibility it is to control all phases of flow.

Research in design and in new alloys has resulted in multiplying the life of valve stems—this improvement translated into longer life means dollars for you. Valve seats have greater resistance to erosion and corrosion because of research—and again research cuts your costs—saves you money.

Alloys have been developed capable of withstanding the searing cold of 150 degrees below zero—the scorching heat of 1300 degrees above, opening up new fields for you in the handling of liquids or gases at greater ranges in temperature. And in welding new alloys, Crane research has developed new techniques that make their use practical. Again this means increased production—more dollars in profit for you.

But research does not stop with these spectacular achievements . . . it also provides an accurate control of manufacture that guarantees the uniform, high quality of the valves and fittings you buy from Crane.

CRANE

CRANE CO., GENERAL OFFICES
836 S. MICHIGAN AVE., CHICAGO

VALVES • FITTINGS • PIPE
PLUMBING • HEATING • PUMPS

NATION-WIDE SERVICE THROUGH BRANCHES AND WHOLESALERS IN ALL MARKETS

1938 in the Petroleum South

VICTOR H. SCALES

Victor H. Scales has been affiliated with the American Petroleum Institute's Department of Public Relations for 10 years, and for the past five years has served as director. He is also the Director of Publicity for the American Petroleum Industries Committee.

Fifty years ago this year two oil wells 300-feet deep and located a few miles west of San Antonio, Texas, brought in the first recorded crude oil production in the Southwest. Forty-eight barrels of oil, the first year's total production, is equivalent to little more than enough to supply today's annual requirements of petroleum products for one average American family.

Through the intervening half-century, that 48-barrel trickle has swelled to a mighty torrent swelling out of Texas, Oklahoma, Louisiana, and Arkansas. These four, with three other Southern states, have produced 11,975,241,000 42-gallon barrels of crude oil—almost 60% of all the oil produced in the United States since the beginning of oil production—with a cash return, just since 1900, of $14,610,033,000 to Southern oil producers. In the past few years the South's share of annual crude oil production has mounted to between 65% and 70% of the nation's total. Other divisions of the huge variegated petroleum industry that have grown up in the last three decades bring their own individual contributions to the economic welfare of the South's more than 10 million families, but undoubtedly the most important direct contributions still are made by the producing branch.

More than 10 years prior to the first Texas production, oil had been found and produced—and is still being produced—in the three border states, Kentucky, Tennessee, and West Virginia. But the great oil fields of the Southwest have overshadowed these earlier producing areas, and it is principally their huge contributions that place petroleum second only to agriculture in importance to the Southern economy. Indeed, petroleum has for many years surpassed cotton as the South's most valuable crop. Practically every penny of the nearly $15 billion paid to Southern producers for the oil produced there in the last 38 years, plus an incalculable additional sum expended in drilling and leasing on which there has not yet been a return, has been paid out in the South, to the South. Wages and salaries to employes; lease rentals, bonuses, and oil royalties to farmers; millions of dollars in oil severance and property taxes to states, counties, and municipalities; huge annual expenditures for equipment, supplies, and contract well drilling; dividends and interest to thousands of Southern oil company investors—in all these ways crude petroleum adds to the cash income of the South even before it enters the pipe line, is refined, and marketed.

The total 1938 production of crude oil in the seven Southern producing states is estimated at 773,200,000 barrels, a decline of 9% from the record totals of 1937. Total United States production dropped 5% to an estimated 1,213,000,000 barrels. Value of this liquid Southern crop in 1938 was approximately $912,376,000. Texas, as usual, led all states in 1938 production despite greatly curtailed operations and a weekly two-day shutdown. The production decline in the South may be ascribed to factors working for more orderly production, and the slight gain in other areas to the further development of new, but comparatively small, producing fields.

Crude Oil Production
(in barrels of 42 gallons)

State	1938	1937
Arkansas ...	18,000,000	11,764,000
Kentucky ...	5,800,000	5,484,000
Louisiana ...	95,000,000	90,924,000
Oklahoma ...	175,300,000	228,839,000
Texas	475,400,000	510,318,000
West Virginia	3,700,000	3,845,000
Total	773,200,000	851,174,000
Rest of U. S..	439,800,000	427,986,000
Grand Total..	1,213,000,000	1,279,160,000

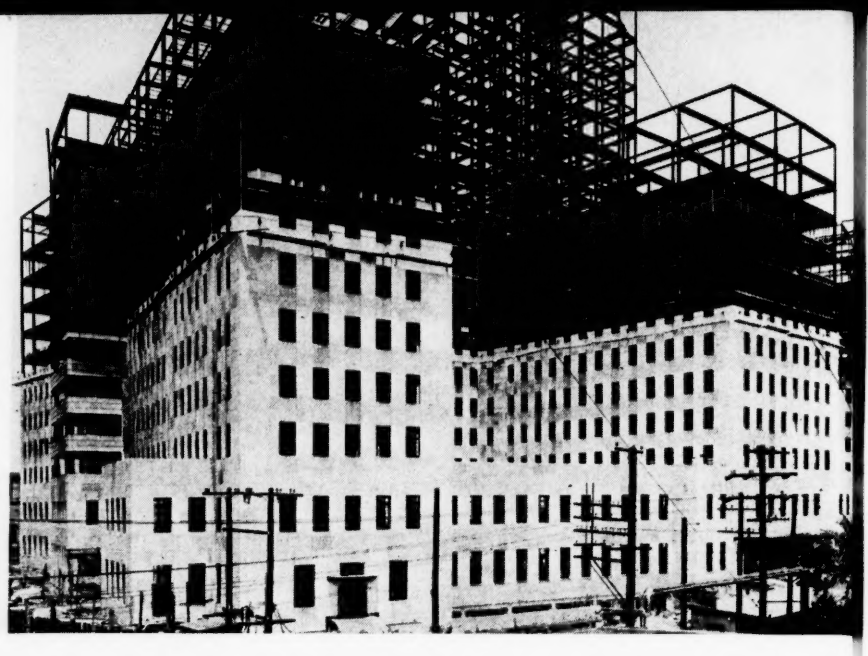
The South leads also in the number of new wells drilled each year, and in the amount of proven petroleum reserves in its subterranean oil sands. Nearly 60% of the estimated 27,517 new wells drilled in 1938 were located in Southern states. Of these 16,475 wells, 11,405 produced oil and 1,168 produced natural gas. The rest were non-productive "dry holes." These new wells, many of them more than 10,000 feet in depth and costing anywhere from $30,000 to $150,000 a well, brought millions of dollars to Southern business men for drilling supplies and equipment, and to thousands of Southern wage-earners. In one Southern state, for example, a 1938 industrial survey made by government agencies disclosed that oil-field workers receive higher wages than those in any other industry.

At the last inventory of petroleum reserves, made early in 1938 by an American Petroleum Institute committee, total United States proven reserves were reported at the highest level in the history of the industry—15,507,268,000 barrels. To six Southern producing states were ascribed more than two-thirds of this total. In addition, the South contains much of the billion acres of potentially oil-bearing land still unexplored and undeveloped.

Pipe-line transportation, a unique system developed by the petroleum industry itself, is a major factor in keeping the prices of petroleum products at the bottom of the government commodity price indexes. More than 60% of the total crude oil pipe-line mileage of the United States is in the South. These 70,210 miles of pipe represent an investment of more than $510,000,000. Last year the estimated 15,500 Southern employes of the pipe lines received more than $28,600,000 in wages and salaries. The pipe lines paid additional sums for equipment and supplies.

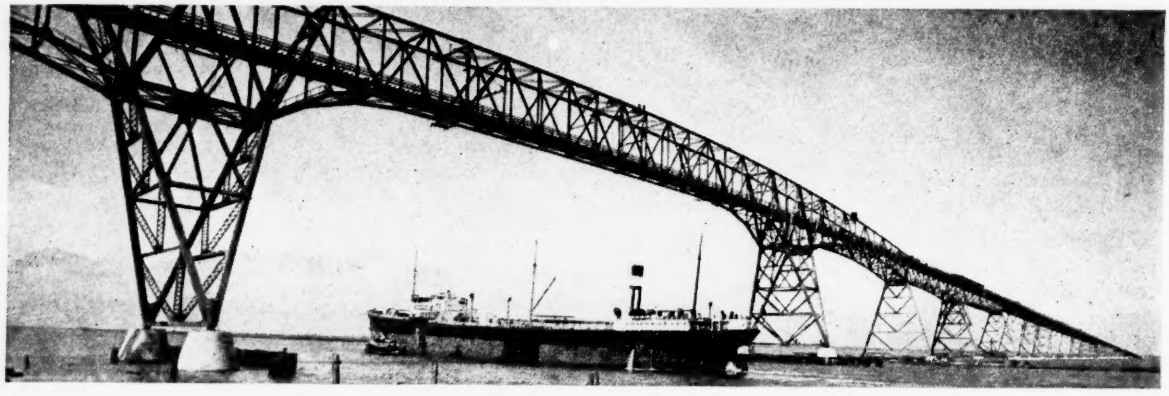
Many of the nation's largest and most modern oil refineries are in the South, close to production. At the last refinery census, January 1, 1938, the South had 179, or 41% of the total operating refineries in the United States. Their daily

(*Continued on page 50*)



Right—This structure representing an investment of $12,500,000, *depicts one of the most modern charity hospitals in the country and rises* 17 *stories above New Orleans' Tulane Ave. on the historic site of the old charity hospital. The group of buildings includes the hospital, nurses' home, laundry building, warehouse and shops building, animal house, and additions to power house building and plant.*

The $2,686,000 *highway bridge at Port Arthur, Texas. This bridge which is about a mile and a half in length and an extreme height of* 230 *feet has a main span providing a vertical clearance of* 176 *feet and a horizontal clearance of 600 feet.*

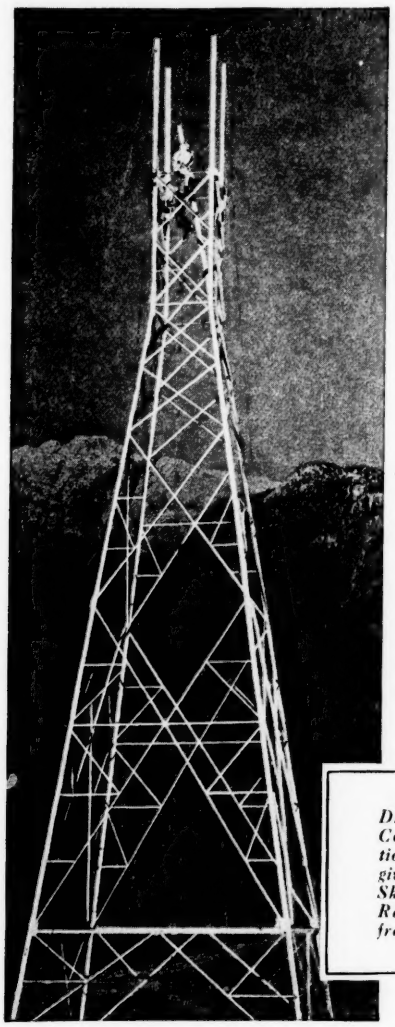


Bottom—The new Fleischer Studios building at Miami, Fla., where 400 *employees representing a million dollar annual payroll, will serve in the production of animated motion picture cartoons, probably including the familiar Pop-Eye and Betty Boop which these Studios distribute through Paramount Pictures.*

DESIGNED FOR *Dependable Service*

UNDER EXTREMES OF CLIMATE AND TERRAIN

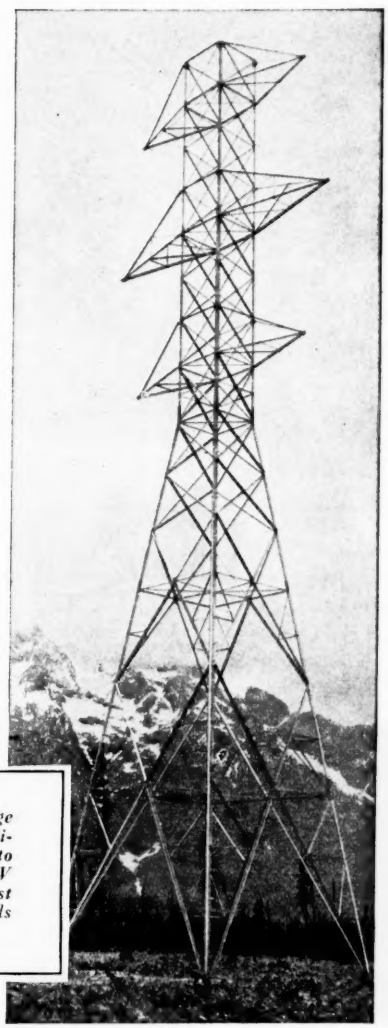
American Bridge Transmission Towers Skirt the Northwest Coast Range



TOWERS of today have to carry high voltages for long distances . . . must provide adequate clearances for the power cables. Their design must give careful consideration to the character and accessibility of the terrain . . . to economical and durable construction . . . to simplicity and speed in erection.

Planning towers to meet any problem of service, terrain and weather—towers to do specific jobs and do them well — has been the aim of American Bridge engineers since 1905. In the intervening years, they not only have kept pace with the ever-growing needs of electric power transmission, but have developed many patented features which contribute to more effective and economical construction of America's power net work.

The entire resources of American Bridge Company, which include an accumulated fund of highly useful experience, ample plant facilities, and up-to-date equipment for full-size tests, are at your service for any tower job.



DESIGNED and fabricated by American Bridge Company to fit pre-determined foundation conditions, these suspension type towers stand ready to give yeoman service on the double circuit, 240 KV Skagit Line No. 2. Skirting the Northwest Coast Range, this 116-mile electric power line extends from Newhalem, Wash., to Seattle.

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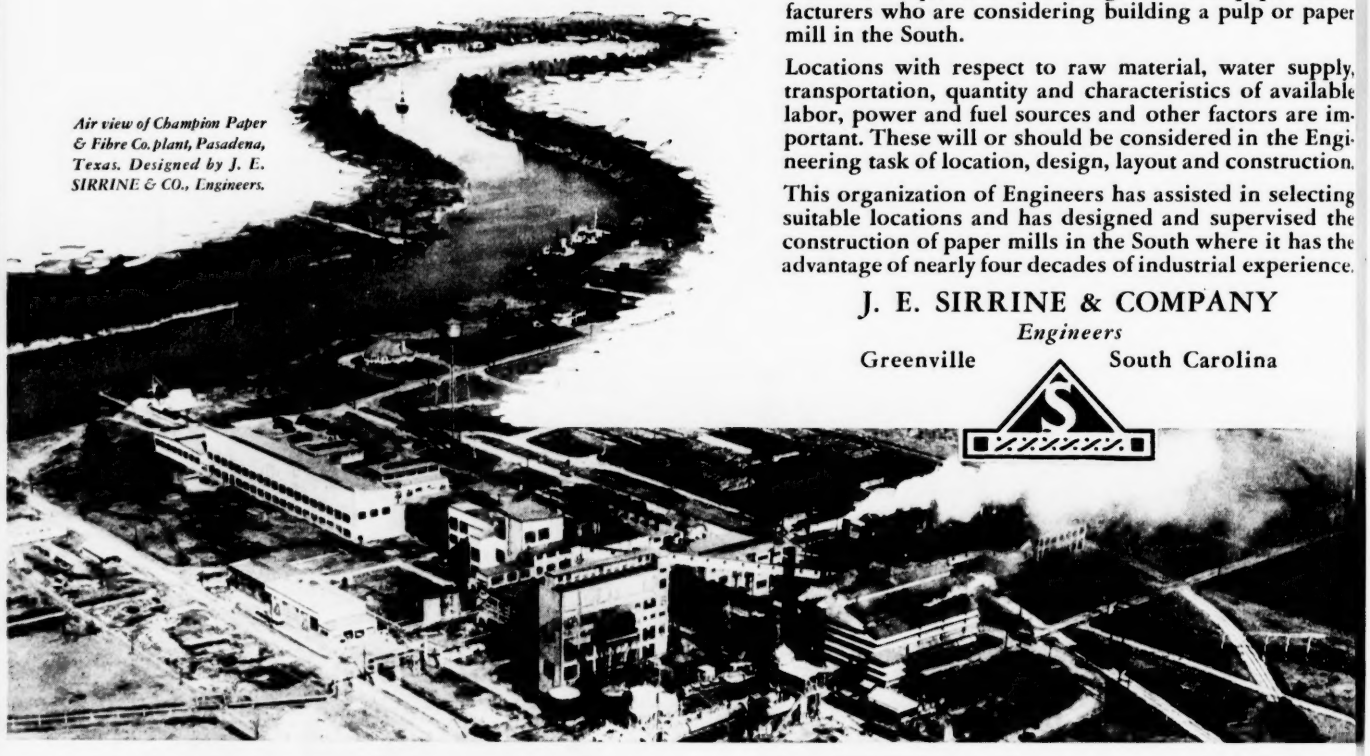
UNITED STATES STEEL

To Paper Manufacturers with an Eye to the South



Air view of Champion Paper & Fibre Co. plant, Pasadena, Texas. Designed by J. E. SIRRINE & CO., Engineers.

There are unquestioned advantages for some paper manufacturers who are considering building a pulp or paper mill in the South.

Locations with respect to raw material, water supply, transportation, quantity and characteristics of available labor, power and fuel sources and other factors are important. These will or should be considered in the Engineering task of location, design, layout and construction.

This organization of Engineers has assisted in selecting suitable locations and has designed and supervised the construction of paper mills in the South where it has the advantage of nearly four decades of industrial experience.

J. E. SIRRINE & COMPANY
Engineers
Greenville South Carolina

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SAVES MONEY

CLEAN AND DRY STEAM AIR GASES

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Decay and Termite Proof—Can Be Painted
Docks for Ocean Vessels

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Long—lasting cypress, unequalled for low depreciation and various uses, is the wood used in Davis Tanks. For 50 years, Southern plants in all lines have been installing Davis Cypress Tanks and steel towers.

Now, the young Southern giant, the paper and pulp industry, is coming to us on an increasing scale.

Let us estimate on your tank needs.

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Our products are designed, built and erected by experienced tank makers.

Tanks any size for all purposes.

Towers any height for tanks.

Write for literature and prices.

THE BALTIMORE COOPERAGE TANK & TOWER CO.
Baltimore, Maryland
The Largest Works of Its Kind in the South

Southern Pulp and Paper Industry Review

During the last three years the South has witnessed one of the largest expansion programs experienced by the industry. In 1935 in the ten Southern states of Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee and Texas there were thirty-one mills with a total productive capacity of 4,000 tons and by the end of 1938 this had been increased to 7,600 daily tons with the construction of thirteen new mills.

These forty-four mills represent an investment close to $200,000,000, one-half of which was made during the last three years and they provide employment for approximately 40,000 men and consume close to 4,000,000 cords of wood annually.

Consumption of paper throughout the United States has been increasing steadily each year at the rate of 1,000 daily tons and the wood pulp that goes into the manufacture of these papers now totals approximately 45,000 daily tons of which 8,000 is still imported. When considering therefore such factors as the normal increase in consumption, tendency to offset imports, and replacement of capacity due to obsolescence in older mills, this Southern expansion was fully warranted.

The first half of 1938 found the industry seriously affected from speculative buying after a year when production records reached a new peak. The sudden addition of productive capacity in the South also undoubtedly required some slight readjustment within the industry. However, the close of the year found practically all of these mills operating at normal capacity.

During 1938 six of these new mills were fully completed representing 1,625 daily tons capacity and the investment of $27,000,000. In addition to this there is still under construction developments that will come into production during 1939 that represent another $20,000,000.

Mills Completed 1938

Probably the most outstanding development was the completion last summer of the $6,000,000 plant of the Southern Kraft Corporation at Springhill, La., having a daily capacity of 700 tons of board and 150 tons of bleached pulp. The bleaching facilities mark another step in the progressive advancement towards new products from Southern wood which can be made by this Company. The Southern Kraft Corporation now has a total productive capacity in the South of 3,000 daily tons or 40% of the total Southern development and the engineering and organization ability that made these plants possible is truly remarkable when considering that they were invariably built and operated ahead of schedule and represent the latest in modernization.

In the spring the St. Joe Paper Co. mill at Port St. Joe, Florida, was completed and came into production with a capacity of 275 daily tons of board. This mill being jointly owned by the Mead Company and the Almours Co., represents an investment of approximately seven and one-half million dollars.

Early in the year the Mead Corporation together with the Scott Paper Co., completed the Brunswick Pulp and Paper Co. plant at Brunswick, Ga., for the production of 150 daily tons of bleached pulp which is to be shipped and used in the Northern mills of these Companies.

On January 14th the Container Corporation of America formally opened their mill at Fernandina, Fla., with a capacity of 150 daily tons of pulp representing an investment of three and one-half million dollars and the first water shipment of pulp from Florida was made shortly after.

Another board mill that was completed early in the year was that of the National Container Corporation at Jacksonville, Fla., with a total capacity of 150 tons of container board and an investment of approximately of three and one-half million dollars.

In January the Chesapeake Camp Corporation at Franklin, Va., completed and put into operation a board mill with a daily capacity of 200 tons which represented a three and one-half million dollar investment.

The National Gypsum Company completed their mill at Mobile, Ala., for the manufacture of insulation fibre board products and already has another development under way at Savannah, Georgia.

Important expansions were made by several of the already existing mills notably amongst which might be mentioned a new Yankee Paper Machine installed by the Southern Advance Bag at Hodge, La., and an additional machine for the Carolina Paper Board Co., and improvements to the mill of the Gaylord Container Corporation at Bogalusa, La.

Mills Under Construction

One of the interesting developments that started construction in 1938 and will

(*Continued on page 62*)

D. G. Moon

D. G. Moon, an industrial engineer of Savannah, Ga., first became associated with the pulp and paper industry when servicing the paper mills in Wisconsin before the World War. Since the War, Major Moon has been connected continuously with the pulp and paper industry and served as chief engineer with the Union Bag and Paper Corporation during the development of that company's mill at Savannah. Educated in England and a graduate of the City of London Technical Institute in civil and mechanical engineering, Major Moon's first experience was connected with railroad construction reconnaisance in Mexico and Central America. Major Moon is director of the first Southern Paper Festival.

Southern Pine Industry in Sound Statistical Position

Notwithstanding some interruptive tendencies and some losses in 1938, the Southern pine industry at the outset of 1939 is in a strong position statistically, and has favorable prospects for the New Year. Compared to the preceding year slight decreases are shown for 1938 in Southern pine production, orders, shipments and consumption. However, forecasts of increased activity in home building, commercial, industrial and other construction in 1939 lead to the hope that demand for lumber will be in much larger volume than during the last 12 months, and if relieved of menacing uncertainties from governmental and political sources, the Southern pine industry, for awhile at least, should be able to cope with the problems now at hand and endeavor to find rational solutions.

According to industry estimates available through October, production of Southern pine totaled 5,314,000,000 feet for the first 10 months of 1938, compared to 6,246,000,000 feet in the corresponding period of 1937, a decrease of nearly 15%. Compared to other 10-month totals, production in 1938 is off 8% from 1936 and only 8.5% above 1935, the first year of normal business following the demise of NRA. In 1935, 1936 and most of 1937, production tended upward, with consequent gains in employment and earnings. Industry in general seemed well on the road to permanent recovery and was managing to cope with increased taxation and other fixed burdens imposed by social reforms already operative, when the defeated wage-hour bill was resurrected. New uncertainties were thrust upon industry. The ensuing recession in the latter part of 1937 and early 1938 dissipated gains made in the previous 2½ years and found business again at the cross-roads, afraid to turn right or left.

Production of durable goods lagged in obeisance to sluggish markets and did not revive notably in the South until enactment of the wage-hour law compelled re-stocking in self-defense. On October 24, hour limitations imposed an artificial restraint on production which, if inadequate to overcome mounting costs due to the higher fixed minimum wage, increased taxes, etc., will cause many Southern lumber mills, especially smaller operations, to close down.

The following will illustrate conditions before and immediately following application of the wage-hour law: In July production for the Southern pine industry was estimated at 532,000,000 feet, a gain of 10% over June, the low month of 1938. In August, production increased 11% over July and September increased 2% over August. In October, the last week of which reflected operations under the wage-hour law, production declined 10% from September and fell back to about its July level, when it was stimulated to restore inventories. Henceforth, Southern pine production and the volume of employment and purchasing power it will create, will depend primarily upon market conditions and consumer response to needed higher prices. Failure to match fixed costs with flexible prices—an economic paradox—will tend to nullify the social reform aspects of the wage-hour law insofar as the Southern lumber industry is concerned.

H. C. BERCKES

Herbert C. Berckes, secretary-manager of the Southern Pine Association, has devoted more than half his 46 years to serving the Southern lumber industry. Mr. Berckes, a native of New Orleans, joined the Southern Pine Association in 1915. He holds numerous positions on committees and in councils of the national lumber industry and is a member of the board of directors of the American Trade Association Executives.

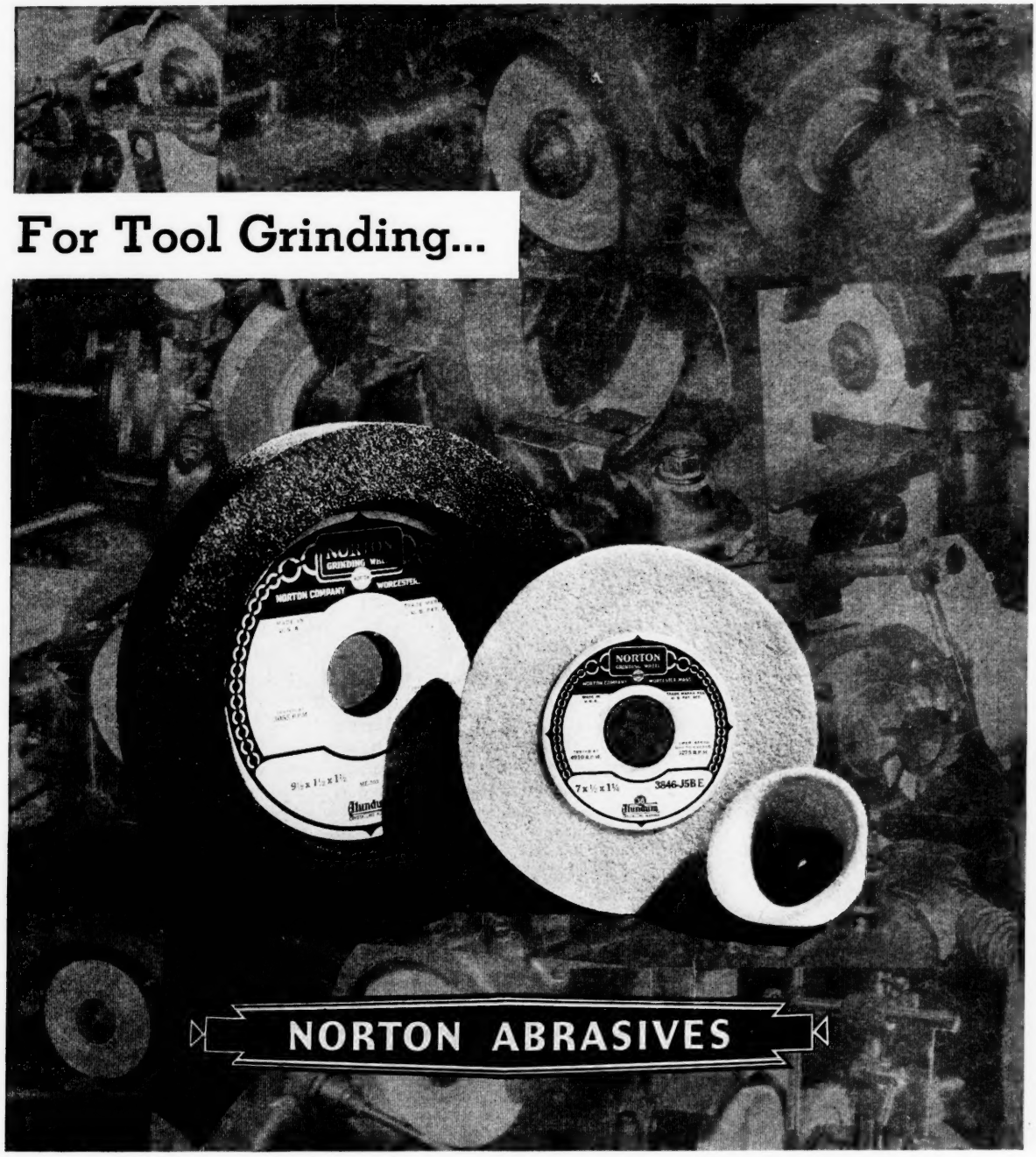
Southern pine industry shipments in the first 10 months of 1938 are estimated at 5,455,000,000 feet, compared to 6 billion feet in the like period of 1937, a decline of 9%. Compared to 1936, shipments are off 7%, but are above 1935 by 7%. The November and December movement is expected to top last year, making the third and fourth quarters of 1938 show increases over a year ago.

Southern pine orders for the 10 months of 1938 reached an estimated total of 5,528,000,000 feet, compared to 5,773,000,000 feet in 1937, a decrease of 4%. Compared to 1936 orders are off 6%, but are above 1935 by 8%.

Operating data are not yet available for November and December, but according to current trends, the Southern pine industry may complete 1938 with these totals: Production 6,350,000,000 feet, or 13% below 1937; shipments 6,500,000,000 feet, or 5% below 1937; orders 5,530,000,000 feet, or 2% below 1937; consumption 6,207,000,000 feet, or 9% below 1937. The current year is expected to close with stocks on hand in the industry of approximately 2,100,000,000 feet, against 2,266,000,000 feet at the close of 1937, a reduction in inventory of about 7%. This will find stocks slightly sub-normal with shortages developing in staple items. Wage-hour requirements and their uncertain effects upon markets, may make it more difficult henceforth to maintain balanced inventories. High cost production and unknown price consumption are conditions which make it hazardous to plan ahead, and there likely will be a tendency to produce in response to demand rather than in anticipation of demand.

Southern pine prices, f.o.b. mill, in the first 10 months of 1938 were consistently below the averages in the like months of 1937. Average decline for the 10-month period at a representative group of large mills was about 20%, or from $28.82 per M. to $23.12 per M. In

(*Continued on page* 58)



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A Bright Era for the Rayon Industry Seen

Rayon staple fiber consumption of record proportions carried the use of rayon yarns and fibers to a new high level in 1938, despite the adverse business conditions at the beginning of the year. While official figures for rayon sales will be forthcoming early in 1939 it is probably not far wrong to estimate the combined use of viscose, acetate and cuprammonium yarns and rayon staple fiber at 330,000,000 pounds, 10 per cent above last year and 2 per cent above the previous record in 1936. Rayon staple fiber alone will probably reach a consumption of 55,000,000 pounds which marks the highest level this type of fiber has attained in this country and is almost 40 per cent above the preceding year.

If the success of staple fiber abroad is any indication, this product has more room to grow in this country. While world figures are not avaialble for 1938, in 1937 there were 52 pounds of staple fiber produced for every 100 pounds of rayon. In Europe alone there were 83 pounds of staple fiber for every 100 pounds of rayon. It seems likely, therefore, that greater growth of staple fiber will occur in this country.

A new field for rayon began to unfold in 1938 with the acceptance of a strong rayon for use in automobile tires. Claims for tires containing rayon cords are that such tires are safer and longer lasting. The research laboratories of the rayon industry are constantly working to improve and adopt this man-made fiber for additional uses and the tire yarn development is just one of a series of achievements which has brought the rayon industry to its present level of success.

The producing capacity of the industry was enlarged further in 1938 and according to official estimates will continue to expand in 1939 and 1940. By the spring of 1940 an operating capacity for the yarn producing industry is expected to exceed 400,000,000 pounds, and it is also likely that approximately 75,000,000 pounds of staple capacity will be in operation by that time. The South is receiving most of this expansion with the enlargement of current producing units and the new locations which have already been widely publicized.

The year 1938 was characterized by a number of significant conditions not already mentioned. Rayon prices reached their lowest level in June and have risen only slightly since then. Thus rayon approaches the future with the most favorable price position it has ever had.

A shift in importance among the fibers occurred, with staple taking a greater share of the rayon business, with acetate sales also gaining, while the sales of viscose type yarns declined moderately. Additional attention was paid to the finer deniers during the year as they became more favorably priced in relation to the coarser items. The whole year emphasized the constant shifting of favor which characterizes the textile market. And by doing so, the year gave further opportunity to rayon because of its man-made adaptability.

ELLWOOD F. ALTMAIER

Ellwood F. Altmaier has been with E. I. du Pont de Nemours & Company since 1928 and is manager of Trade Analysis in the Rayon Division. A graduate of the University of Pennsylvania, Mr. Altmaier was born in Lansdowne, Pennsylvania, the same town in which rayon received its start in this country.

A New Synthetic Fiber for Textiles Announced in 1938

In October 1938, announcement was made by the du Pont Company of a new synthetic material having numerous potential applications in the textile field. Christened "nylon," this new material may properly be regarded as one of the most significant developments in the history of industrial research in the United States. Though fabricated from such common materials as coal, water, and air, nylon can be fashioned into filaments of great strength, as fine as the spider's web, yet more elastic than any of the common textile fibers. Nylon can be spun into either bright or dull filaments, as desired. In their physical and chemical properties, nylon fibers are radically different from other synthetic fibers. Unlike rayon, nylon does not contain cellulose and is not derived from cellulose. Like natural silk, nylon is a polyamide having a protein-like structure. The nature of nylon is such, however, that filaments of this new material can be spun which are much finer than the filaments of either silk or rayon. Of particular promise among the prospective uses for nylon is high twist yarn for fine hosiery, because hosiery made of this new fiber possesses extreme sheerness, high elasticity, and high strength.

A sum of more than $8,000,000 has been appropriated to construct, near Seaford, Delaware, the first unit of a plant to produce nylon textile yarn. Since the erection of this plant will require approximately a year, it is not anticipated that nylon yarn will be available in commercial quantities before early in 1940.

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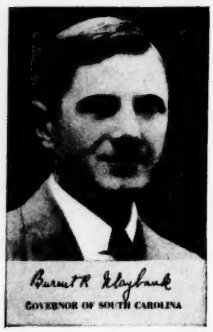
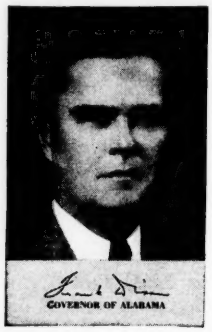

GOVERNOR OF SOUTH CAROLINA

GOVERNOR OF TENNESSEE

SOUTHEASTERN GOVERNORS CONFERENCE 1939

GOVERNOR OF ARKANSAS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LAWRENCE WOOD ROBERT, JR., Executive Director — Bona Allen Bldg., Atlanta, Ga. — **CARROLL DOWNES,** Industrial Consultant

The Cotton Textile Outlook

Unusual uncertainties beset cotton manufacturers as the year ends. The question of future minimum wages is uppermost. The minimum wage of 25¢ an hour, under the Fair Labor Standards Act, which went into effect October 24th, though creating hardship in some sections, made little difference with the industry generally, for the reason that the average wage in southern mills is nearly 50% above this figure. What concerns the mills is the next step under the Act. The Industry Committee No. 1 (Textile Committee for cotton mills established under the Act) has been conducting hearings with a view to deciding whether the minimum should be raised and at what figure it should be fixed. The Act confers upon this Committee the authority to establish immediately a minimum up to 40¢ an hour provided no curtailment of employment would result.

Arguments were presented by some interests for a high minimum, by others for a low minimum, and still others argued for differentials in the minimum, in order to make allowance for special conditions. The problem is a complex one, and at the present writing there is no basis for estimating what the decision of the Committee will be, but there is one thing that the industry feels certain about and that is that labor costs will be higher in 1939 than they are now.

What Wage Minimums Mean

A 30 cent minimum would involve raising the wages of over 70,000 workers, or 19.6 per cent of the total, from an average of 1.3 cents to more than 17.5 cents an hour, increases ranging from 4½ per cent to more than 140 per cent. The increases would directly affect more than 68,000 employees in the South and more than 2,000 in the North.

The fixing of a 32½ cent minimum would require increases averaging from 1.3 cents to more than 20 cents, or from 4.2 per cent to over 160 per cent for more than 129,000 employees. The increases would directly affect 44.2 per cent of the workers employed in the South and more than 6 per cent of the workers in the North.

The establishment of a 35 cent minimum would involve increasing the wages of approximately 185,000 workers in the industry, or 51.3 per cent of the total, from an average of 1.3 cents to more than 22.5 cents, increases ranging from 3.9 per cent to more than 180 per cent. A 35 cent rate would directly affect more than 58 per cent of the employees in the South and about 24 per cent in the North.

The fixing of a 40 cent rate would require increases in hourly rates ranging from an average of 1.3 cents to more than 27.5 cents, or from 3.4 per cent to more than 220 per cent. This rate would directly affect approximately 252,000 employees, or 70 per cent of the total employed in the industry; and more than 76 per cent of the workers in Southern mills, and more than 48 per cent of the employees in the North.

Higher Prices Must Come

There is a strong inference that the purchasers and users of cotton goods have failed to give weight to this prospect of higher labor costs. It may not be realized that the present prices for cotton goods are at a depression level, do not cover costs of production, and that any advance in labor cost will inescapably cause the price of cotton manufactures to increase.

These considerations are important in view of the fact that inventories of cotton goods in channels of distribution have been permitted to run down. The reports of the Federal Reserve Board indicate that wholesale dry goods concerns and retail stores generally are carrying a much less volume of cotton goods than a year ago. For example, some Federal Reserve areas reports a reduction in retail inventory of cotton wash goods of as much as 15% to 19½%; in bedsheets, pillow cases, towels, etc. a reduction in numerous areas as much as 20%; handkerchiefs over 30%. We estimate that the yardage billed by cotton mills to their customers in 1938 was less than in 1937 to the extent of over a billion yards; the shrinkage in billings compared with 1936 amounted to over a billion and a quarter yards. 1938 also was a year of low production of cotton goods; the falling off

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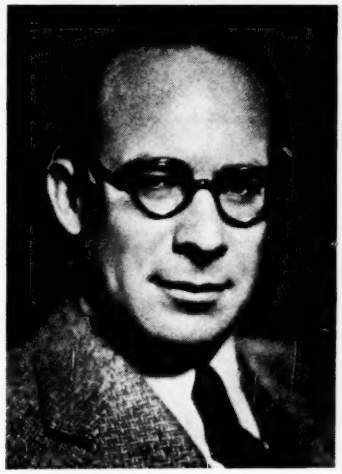

CLAUDIUS T. MURCHISON

Claudius T. Murchison, president of the Cotton-Textile Institute, is a native of North Carolina and received his early education there. He received his doctorate from Columbia University in 1919. Subsequently, Dr. Murchison was a member of the economics faculty at New York University and the University of North Carolina from which institution he resigned in 1934 to become director of the U. S. Bureau of Foreign and Domestic Commerce. Dr. Murchison was chairman of the American Textile Mission to Japan in 1937.

•

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Atlantic and Gulf Coasts Shipbuilding During 1938

The year 1938 has witnessed a marked increase in the volume of both Commercial and Government Shipbuilding in the United States.

The Maritime Commission appointed pursuant to the provisions of the Merchant Marine Act of 1936 has accepted the mandate of that Act to determine what additions and replacements are required to carry forward the national policy declared in the Act and it has taken steps to adopt a long range program for replacements and additions to the American Merchant Marine to provide for an adequate merchant fleet on trade routes essential for the maintenance of foreign commerce.

The Act contemplates a replacement program by private interests, but in the event that such replacement by private interests is not probable within a reasonable time, the Commission is authorized to construct vessels for its own account for charter and ultimate sale, if possible, to private interests. Under such provision the Maritime Commission has contracted directly for the construction of thirty-two vessels of the strictly cargo type and four cargo vessels and three combination vessels for private account, while bids are pending for the construction of further vessels of the cargo type and several of the combination type; that is, cargo vessels carrying a considerable number of passengers.

For the first time, therefore, in fifteen years, there are vessels of the strictly cargo type now under construction to take the place of or to supplement the nearly obsolete wartime built cargo vessels now engaged in our foreign trade. In addition to cargo vessels now building twelve large oil tankers of 16½ knots speed, which were contemplated a year ago, are now under construction. These tankers are being built through the joint cooperation of private industry, the Maritime Commission and the Navy Department and are of a speed several knots in excess of that generally specified for commercial vessels of this type. They are, therefore, suitable for Government auxiliaries in time of need as well for commercial use.

The construction of a new passenger liner for the United States Lines at the works of the Newport News Shipbuilding and Dry Dock Company, Newport News, Va., to supplement the transatlantic service now afforded by the "Manhattan" and "Washington," is proceeding and this vessel should be in service in the summer of 1940.

In addition to vessels of the seagoing type the shipyards of the country are busy in the construction of miscellaneous craft such as tugboats, carfloats, barges, ferryboats, etc.

The increase in the volume of shipbuilding has created an added demand upon the allied industries for the furnishing of materials and equipment for ships building.

The ship repair industry, which gives employment to men of the same experience as those engaged in shipbuilding, has been somewhat less active in 1938 than in 1937 because of a falling off in the number of ships engaged in the carriage of goods but it has been nevertheless an important factor in the employment of a large staff of technicians and mechanics well distributed in the various shipping ports of the country.

The large increase in Naval building together with the construction of vessels for other departments of the Government has given employment to a large additional number of men over last year not only in the private shipyards but in Government establishments where approximately ½ of all Government vessels are being built.

The broad geographical distribution of labor in the shipbuilding and ship repairing industry is interesting because of its distribution not only to the shipyards and repair plants on our salt and fresh water fronts but also because of its broad distribution to allied industries throughout the entire country.

A detailed distribution of commercial building contracts on the Atlantic and Gulf coasts is as follows:

H. GERRISH SMITH

H. Gerrish Smith, president of the National Council of American Shipbuilders since 1929, brought to that position the knowledge and experience of a lifetime devoted to maritime affairs. A native of Ohio, he graduated from the U. S. Naval Academy in 1881 afterwards attending the Royal Naval College, England, for three years for special study in naval architecture. Mr. Smith resigned from the navy in 1903 and after a term of years as manager of the Fore River Shipbuilding Corporation, he joined the Bethlehem Shipbuilding Corporation becoming vice-president in 1923.

Mr. Smith's experience covers the construction of virtually every type of naval and merchant craft. During the World War he directed the construction of destroyers and submarines for the U. S. Navy and merchant vessels for the Shipping Board.

Commercial Vessels of 100 Gross Tons and Over Under Construction in Atlantic Coast Yards on December 27th, 1938

ABOVE MASON AND DIXON LINE

Yard	*Class of Vessel*	*Gross Tons*
Bethlehem Steel Co. (Quincy)	3 Pass-Cargo	27,000
	2 Trawlers	640
	4 Cargo	34,000

(*Continued on page* 52)

ROBERT STRICKLAND

Robert Strickland, president of the Trust Company of Georgia since 1937, has been connected with banking from the time he left the U. S. Army in 1919. Before that, Mr. Strickland practiced law from 1913 to 1917. A native Georgian, he received his college and legal education from Emory University and Atlanta Law School. He was elected president of both the Atlanta Clearing House Association and the Georgia Bankers Association in 1937 when he was vice-president of what is now the First National Bank. He joined the Trust Company of Georgia as executive vice-president in 1933 and was made president four years later.

Southern Finance—1938

All things considered, 1938 can be regarded as a satisfactory year from the standpoint of the Southern banker. There was much to be desired in the early months of 1938, but in early summer business conditions turned upward and have since shown satisfactory increases, especially when the closing months of 1938 are compared with similar months in 1937.

In the early part of the year much uncertainty existed; not only were business conditions hesitant but this halting trend was emphasized by a turn down in the price of stocks. In June conditions showed evidence of reversing themselves, but it was not until the end of July that conditions were able to show improvement over the levels attained during the opening months of the year.

As 1938 drew towards its close, the trend of business was much more satisfactory. Preliminary figures released by the Federal Reserve Bank of Atlanta show that cotton textile activity in November 1938 ran substantially higher than in November 1937, and that pig iron production in the Birmingham District was nearly 25 per cent greater on a similar basis of comparison. While complete statistics on retail trade were not available as this was written, preliminary estimates showed that such trade for the four weeks ending December 17th was 4 per cent higher in the Sixth Federal Reserve District than in the similar period of 1937.

Figures showing the condition of twenty-two member banks in selected Southern cities on December 14, 1938, revealed an increase of $42,000,000 in loans and investments over the same date of 1937. Of this increase, approximately one-half was in commercial loans, which is an indication that business is beginning to find use for bank funds. Demand deposits showed an increase of $26,000,000 on the dates mentioned, with interbank deposits up $41,000,000, and Government, state and municipal deposits $17,000,000 higher.

All of these signs point to the fact that while the earlier months of 1938 may have been unsatisfactory, the closing months showed a reversal of trend and in so far as can be seen, point to a sustained level of business. Only one major factor—commodity prices—was unfavorable as 1938 closed, and, generally speaking, this factor had been unsatisfactory all year long. While commodity prices showed a dip similar to that taken by stocks and bonds from January to June, these prices were not able to hold up in the rise which followed after June, as was true in the case of business and stock prices, which advanced to higher levels. Actually, in the case of commodity prices, there was weakness following a sidewise movement which took place from August through October, and the end of the year found these prices somewhat lower than they were at the beginning of 1938. Until the prices of basic commodities, especially cotton, show a better tone, some uncertainty will exist as to how far business can expand and hold a sustained volume. Unfortunately, large surpluses of agricultural products cloud the outlook for early improvement in the prices of many commodities.

The year 1938 has been marked by an effort on the part of commercial bankers to exploit new fields for loans and this trend is evidenced by the wider use of small loans. As an example, this principle is now applied by many banks to financing insurance premiums. Of greater interest to many manufacturers is the new term loan, by means of which capital improvements can be financed over a period of from three to five years. These loans are repayable in annual instalments so that the cost of the improvement does not place an undue burden on any one year. Although it is too soon to predict how far commercial banks can go in making this type of loan, its increasing use has been one of 1938's most important financial developments.

Turning to Southern municipal financing in 1938, many of our governmental bodies took advantage of the extraordinarily low interest rates prevailing for municipal credits and issued bonds for construction projects. In connection with this type of financing, an increase in revenue municipal bonds was noticeable in 1938. These bonds do not look to taxation for payment, but depend directly upon revenues to be received from the utilization of the completed improvement. Noticeable also in 1938 was the continuation of the trend toward placing state and municipal finances on a sound basis. As an example, it is interesting to note that from July 1927, through July 1938, the State of North Carolina reduced its bonded debt by $85,565,000, which is an average of $7,776,000 in each of the eleven years covered. Since the middle of the depression in 1932, local communities in North Carolina are reported to have reduced their bonded debts by $42,000,000 through July 1938. For the fiscal year ending September 30, 1938,

(*Continued on page* 60)

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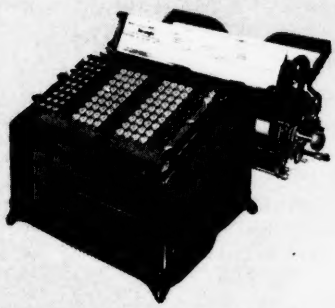

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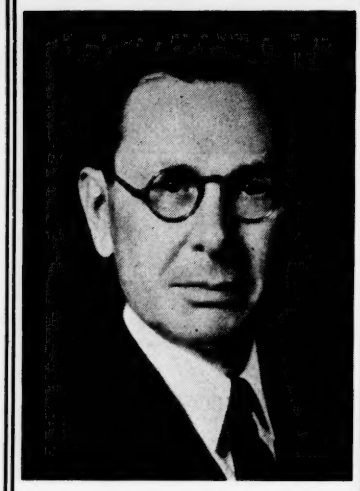
Burroughs Payroll and Form Writing Machine

The Cottonseed Situation —1938



S. M. HARMON

A native of Mississippi, Mr. Harmon received his Bachelor of Science degree from Mississippi State College. Following ten years in railroad work, the next decade found him as buyer and manager of cottonseed oil mills, and after six years with the Cottonseed Crushers Association of Mississippi, Mr. Harmon came to his present position of Secretary of the National Cottonseed Products Association in 1932.

The cottonseed crop is always an interesting subject of discussion in the Cotton Belt. Because of unusual features which attend the marketing of seed, the price received by producers attains an importance out of proportion to the value of the commodity. Each season—whether the price be high or low—there are charges that the farmer is being paid too little for his cottonseed. The debate progresses from season to season, without rime or reason, irrespective of cause or effect. These controversies are most often inspired by those who should know better or who should be engaged in a more worthy undertaking.

Much has been said about the record crop of 1937. More than 8 million tons of cottonseed were produced last year and 6.6 million tons were sold to the crushing mills. Cotton farmers received about 130 million dollars for their seed, which was less than the farm income from the 4.5 million tons sold from the 1936 crop. The 1937 crop was marketed at a time when the so-called recession was in progress and prices for all commodities, especially farm products, went into a tail spin. However, cottonseed maintained a relatively good price during the past two marketing seasons, as is shown by the following table compiled from figures released by the United States Department of Agriculture:

Price Relatives

(August 1909—July 1914=100)
Based on Actual Prices Received by Farmers

Commodity	August		September		October		November	
	1937	1938	1937	1938	1937	1938	1937	1938
Cottonseed	121	97	87	96	83	102	85	105
Cotton	86	65	73	66	65	69	62	69
Corn	160	76	146	75	92	65	75	62
Oats	71	51	73	55	72	55	72	56
Hay	76	57	75	56	74	57	74	57

Total income from cottonseed will be considerably smaller this year than it was from the 1937 crop. Instead of the 130 million dollars they received for cottonseed last year, cotton growers will receive less than 100 million dollars for the current crop. In place of the 6.3 million tons of seed crushed during 1937-1938, the oil mills will crush about 2 million fewer tons this season. This loss of income will be felt by cotton farmers and oil mills, and will be reflected throughout the entire Southern economy.

While natural factors have been influential, curtailment of the cotton crop is the chief cause of this reduction of income. It is not to be expected that total production will soon equal the record set last year, although we may expect increased yields per acre under the soil conservation program and diversified farming in the Cotton Belt. Continued curtailment of cotton production will eventually cause a condition which will seriously affect the very existence of the cottonseed crushing industry and result in very heavy losses to capital and labor employed in processing cottonseed, as well as many other factors interested in the business.

Probably the theory of crop reduction is that smaller crops of cottonseed will yield higher incomes to growers. Conditions were such that this conclusion seemed more logical with respect to seed than it did for lint. Temporarily, that was what appeared to happen. Cottonseed prices did advance and held at a high level during 1934-36, and total income from the 1936 crop was above the average.

But while the South has kept down its production of cottonseed except in 1937, other sections have been busy increasing their production of competitive crops. Soybean production for crushing purposes, for example, has increased about four-fold during the past five years. Soybeans yield oil and meal which are definitely competitive with the two principal products of cottonseed, and which have undoubtedly had an adverse effect on cottonseed prices this season. Thus we see Southern cotton farmers surrendering an important source of cash income, and the farmers in the grain belt securing a new cash income to take the place of some of that lost in their own crop adjustment programs.

There is, of course, no reason why the farmers of the Mid-West, or any other section, should not raise soybeans. It is a question, however, whether Southern farmers should be restricted by the Agricultural Act of 1938 from seeking certain new sources of cash income because for them to do so might disrupt the farm program of other sections of the country.

The 1938 A.A.A. required Southern farmers to reduce their acreage of cotton and certain other "surplus" crops. At the same time, it prohibited these farmers from using retired acres to increase their dairy herds, under penalty of losing benefit payments. Thus the natural outlet into which cottonseed feed products might be expected to flow, in the face of increasing competition, has been closed. It is certain that, with the limitations on its production, cottonseed should not be burdened with the additional legal obstacles which now prevent its development.

When plans for controlling cotton production were first inaugurated, the cottonseed industry went along with the

(*Continued on page* 60)

W. T. Price, president of the W. T. Price Dredging Corporation, Miami, Fla., says this about International Trucks:
"We have been leading contractors in Miami, Fla., for 18 years, and have been using International Trucks in our construction and building-supply departments. Internationals give excellent service at low cost. The latest addition to our fleet are four Internationals (shown below) with mixers mounted on them."
W.T.PRICE

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Turn your hauling over to an International and enjoy *all* the advantages these trucks bring to your work. They are designed and built as *All-Truck* trucks for hard, heavy work. Their handsome appearance reflects the quality and skilled engineering that have gone into every detail to make them the best truck investment on the market.

There are 30 models in 99 wheelbase lengths in the International line, from Half-Ton units to powerful Six-Wheelers. Several models have two-speed rear axles, providing a special low range of speeds for hauling in tough spots. See the nearby International dealer or Company-owned branch for a demonstration.

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INTERNATIONAL TRUCKS

Fertilizers in the South in 1939

Portentous changes are taking place in Southern agriculture that profoundly affect the use of commercial plant food.

The latest estimate of the United States Department of Agriculture on this year's cotton crop is 12,008,000 bales as compared to last year's all-time peak of 18,946,000 bales and a ten-year 1927-1936 average of 13,201,000 bales. There has been a definite shift westward of the cotton-growing areas. This year California grew more cotton than North Carolina, and Arizona grew more than one-third as much as Oklahoma. In comparison, the average production of California and Arizona combined for the ten years 1927 to 1936 was only half as much as North Carolina's. Irrigation on soils of greater native fertility permitted California to produce an average of 602 pounds of lint cotton per acre as compared to an average for the country as a whole of 226.8 pounds.

The cotton control program and continued shifting of cotton-growing to the West will probably cause additional reduction of cotton acreage in the Southeast, with corresponding diversion of acreage to tobacco, corn, and other crops, and to pasture.

Pounds of Commercial Plant Food Used Per Acre 1937

Fla.	119	Miss.	12.2	Wis.	1.68
N. J.	80	Cal.	11.0	Mo.	1.60
Mass.	56	La.	10.9	Tex.	0.99
R. I.	54	Ohio	10.0	Ida.	0.77
N. C.	52	Ind.	8.7	Utah	0.57
Me.	48	Ill.	8.5	Nev.	0.50
Conn.	45	Ver.	8.10	Minn.	0.33
S. C.	44	W. Va.	7.4-	N. M.	0.31
Del.	34	U. S.	6.8	Kans.	0.26
Md.	29	Mich.	6.23	Wyo.	0.21
Ga.	24	Ariz.	4.97	Mont.	0.20
Ala.	23	Tenn.	4.97	Okla.	0.17
Va.	21.	Ky.	3.95	Iowa	0.14
Pa.	16.4	Ark.	3.14	Col.	0.10
N. H.	15.7	Wash.	2.28	N. D.	0.01
N. Y.	13.0	Ore.	1.73	Nebr.	0.0041
				S. D.	0.0039

These crops must also be fertilized if economic returns are to be realized. Increased acreage of tobacco and truck crops will tend to increase the average amount of fertilizer used per acre, since these crops are more heavily fertilized than cotton. In 1937 an average of only 6.8 pounds of chemical plant food per acre was used on the crop and pasture land of the United States, as compared to 99 pounds used in Holland and 67 pounds used in Germany. Florida using 119 pounds of plant food per acre, together with the amount used by other states is as follows:

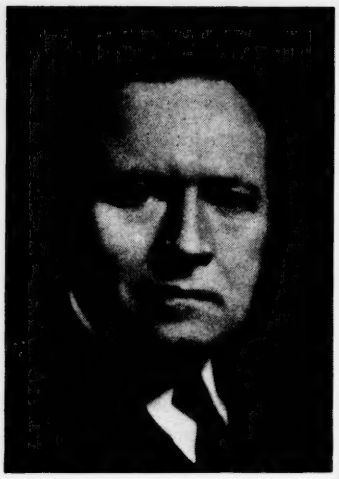
Fertilizer use in the 16 Southern States in 1938 dropped to 4,965,876 tons, a decrease of nearly 600,000 tons, or 11 per cent, from the tonnage of 1937. Farm income in these States declined from $2,101,448,000 in the first ten months of 1937 to $1,998,929,000 for the same period in 1938, a drop of 4.9 per cent. As a rule, fertilizer consumption closely follows farm income. Increasing farm income, as is predicted for 1939, should bring about increased consumption of fertilizer next year. Fertilizer consumption in 1938 in these States declined more than did farm income. Return to a normal relationship is expected, and this also indicates increased consumption in 1939.

Activities of the Government along three separate lines during the past year have been of great interest to the fertilizer industry. The Joint Congressional Committee, appointed to investigate the adequacy of phosphate reserves and the agricultural use of phosphates in response to the President's message to Congress on that subject, held hearings in Washington, D. C., Idaho, Tennessee, and Florida. Claims had been freely made that the deposits of Tennessee and Florida were so nearly exhausted that the deposits of the western mountain States of Idaho, Montana, Utah, and Wyoming should be immediately developed by Governmental agencies in order to conserve and preserve the eastern fields. Prohibition of exports of the South's phosphate rock was demanded. Testimony at the hearings of the Phosphate Committee indicates that the reserves of phosphate rock in Tennessee and Florida run into billions of tons, sufficient to last thousands of years at normally increasing rates of consumption.

That increased use of phosphates in agriculture will produce more crops per acre and tend to maintain soil fertility is without question, but phosphate application alone will not continue indefinitely to produce such results. Potash, nitrogen, and other chemical plant foods must be returned to cropped soils, else their deficiency in these elements will become the limiting factor of crop production. It is true that much nitrogen can be returned to soils through the growing of certain legumes, and such practical crop rotations as will provide for this should be practiced. By no means has it been proven that such practice is the long-range economic answer to the nitrogen problem in all areas and on all crops. The inexhaustible supply of nitrogen in the air and the ability to fix that nitrogen in chemical forms suitable for agriculture at a cost permitting economic returns from its use under crops is a more definite insurance against excessively high prices and starvation.

Another Joint Congressional Committee has been investigating the activities and operations of the Tennessee Valley Authority. Many weeks of hearings have been held in Washington and in Knox-

(*Continued on page* 56)



CHARLES J. BRAND

Charles J. Brand, executive secretary and treasurer of the National Fertilizer Association, was connected with the U. S. Department of Agriculture from 1903 to 1919, and at subsequent periods, in a variety of capacities. In 1913 he was appointed chief of the Bureau of Markets which he organized. In 1933 Mr. Brand was co-administrator of the Agricultural Adjustment Act.

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Detroit, Mich.	Cleveland, Ohio	$ .50	$ .70
Kansas City, Mo.	Omaha, Neb.	.75	1.05
Philadelphia, Pa.	Boston, Mass.	1.00	1.35
Milwaukee, Wis.	Pittsburgh, Pa.	1.50	2.00
Atlanta, Ga.	Kansas City, Mo.	2.00	2.65
Seattle, Wash.	Denver, Colo.	3.00	4.00
Newark, N. J.	Fort Worth, Texas	4.00	5.25
Portland, Ore.	Memphis, Tenn.	5.00	6.75
New York, N. Y.	San Francisco	6.50	8.75

★ For 3 minutes. These rates are greatly reduced after 7 every evening and all day Sunday.

Southern Construction In During 1938—*December Au*

By
S. A. LAUVER

THE Southern construction industry, notwithstanding general business uncertainty, ended the year of 1938 with a volume of work to its credit comparing favorably with any past twelve-month period. A valuation of $831,481,000 had been placed on the contracts awarded during the year, with December's $116,177,000, the highest for any month in eight years, contributing over thirteen per cent to that total.

This figure is well ahead of the total for 1937. In but two years within the past ten has it been bettered, and in only one other has the total come close. The all-time record of 1936, when so many millions of dollars were being spent for new paper mills and expansion of the Southern steel industry, is about eleven per cent higher than the 1938 value.

During the last three years Southern construction activity has remained at a high level. Annual totals for 1936 and 1937, like that for 1938, were above eight hundred million dollars, which represents a good year in Southern construction. Before 1936, however, building work was almost submerged in a trough of inactivity during which one year's (1933) total declined to an unprecedented low for these times.

Construction's upward trend during 1938 was due in a large measure to public building, public works and road and bridge contracts. These types of work amounted to sixty-one per cent of all undertaken. Industrial construction ebbed, remaining low during most months of the year, with exception of a few sporadic impulses, while general building, including residential projects, financed with government funds, was within five per cent of 1937.

Although the industrial figure was down — representing about sixty-four per cent of the total of industrial work undertaken in 1937—there were a number of projects which stood out, not only as additions to the South's industrial life, but to the country's as well. One of these was the Ecusta cigarette paper plant now well along toward completion at Brevard, in western North Carolina. This enterprise is a new one for this country and is costing in the neighborhood of $2,000,000.

Another venture in paper manufacturing unusual to that of the established industry in this country also bids fair to become a reality as the result of the extended negotiations carried on during the year. This is the $7,500,000 newsprint mill to be erected in Lufkin, Texas, by the Southland Paper Mills. Announcement of the award was made in July, matters having just reached the point where construction is scheduled to start at about the time this is published.

The tobacco industry came in for its share of expansion, both in manufacturing and experimental facilities. Philip Morris & Co., Inc., Ltd., completed its modern new plant at Richmond. The American Tobacco Co. started on a $500,000 addition to its plant at Durham, N. C., and proceeded with construction on a large research laboratory at Richmond, Va. Warehouse facilities were increased at other points.

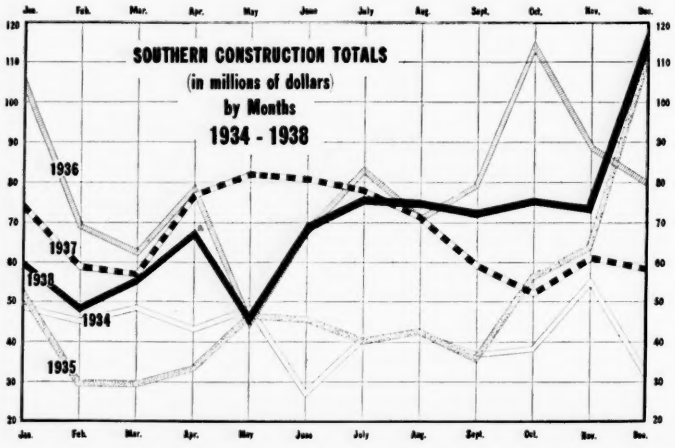
Private power interests went forward with projects for increasing the South's electric generating capacity, both in hydro and steam plants. The largest, although not the most recently announced, is the $12,000,000 dam being constructed across the New River in Virginia by the Appalachian Electric Power-American Gas and Electric group. Four 26,000-horsepower generating units will be installed to drive the generators of 18,750-kilowatt capacity each. The award for a $3,000,000 addition to Virginia Electric and Power Company's Richmond station was made late in September.

December saw the first step toward increasing steam-electric facilities as indicated by the announcement of the power committee appointed in connection with the country's rearmament program. The Consolidated Gas, Electric Light and Power Co., operating in Baltimore, one of the areas considered of military importance, made public that equipment contracts had been let for a $3,600,000 topping plant addition at its Westport power plant. The Potomac Electric Power Co., located in the neighboring city of Washington, revealed that it had studies under way for an additional unit, and the Duke Power Co., North Carolina operative, selected the site for its new plant, which ultimately will have a capacity of 320,000 horsepower.

Building materials manufacturers established important units. Plants estimated to cost around $1,000,000 each, were established at Jarrett, Va., by Johns-Manville, at Jacksonville, Fla., by United States Gypsum, at Savannah, Ga., by National Gypsum. A $5,000,000 motion picture industry was moved South by Fleischer Studios, Inc., which constructed a large plant for producing feature length technicolor cartoon films. Construction, now almost completed, was started on the $200,000 building to house a million-dollar tire manufacturing enterprise at Natchez.

South's Contracts Construction by States

	Contracts Awarded December, 1938	Contracts to be Awarded December, 1938	Contracts Awarded Twelve Months 1938
Alabama	$3,204,000	$8,833,000	$26,644,000
Arkansas	3,336,000	5,586,000	18,930,000
District of Columbia	11,508,000	4,439,000	59,153,000
Florida	6,223,000	9,611,000	55,999,000
Georgia	7,866,000	22,869,000	40,981,000
Kentucky	4,980,000	6,268,000	33,680,000
Louisiana	9,814,000	19,799,000	55,879,000
Maryland	12,493,000	9,372,000	56,543,000
Mississippi	11,202,000	5,549,000	36,446,000
Missouri	5,234,000	12,114,000	46,928,000
North Carolina	4,720,000	12,101,000	39,735,000
Oklahoma	3,533,000	6,255,000	31,941,000
South Carolina	4,276,000	8,437,000	41,872,000
Tennessee	2,032,000	4,811,000	33,669,000
Texas	16,356,000	29,879,000	160,531,000
Virginia	6,830,000	11,732,000	60,517,000
West Virginia	2,570,000	5,016,000	32,033,000
Total	$116,177,000	$182,671,000	$831,481,000



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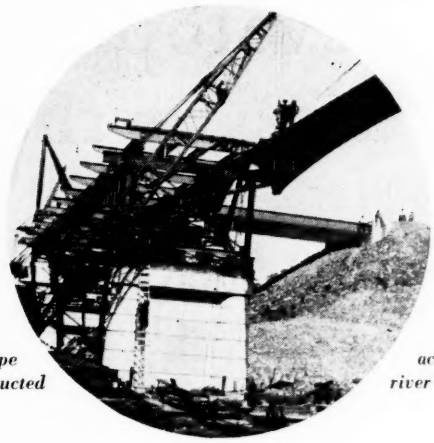


The Wichert type bridge being constructed across the Potomac river at Hancock, Md.

Miss. The interesting feature of this project is its Z-D roof of half-barrel-like slabs of thin concrete.

Shipbuilding under the contracts let by the Maritime Commission for 52 merchant vessels costing $130,000,000 has naturally resulted in expansion of facilities for carrying out this work, with the South participating at several points. Bethlehem Steel Co., is now going forward with a project involving a big expenditure for relocating a floating drydock next to its Key Highway graving yard at Baltimore, in order to allow more space for ship construction at its Sparrows Point, Md., plant. A shipyard at Chickasaw, near Mobile, Ala., is to be rehabilitated and perhaps added to in connection with organization of a new concern there, with expansion also at Tampa, Fla.

The projects cited in the foregoing show what has happened in the Southern industrial field, when such work has been at a low level as compared with normal years. They represent a cross section of the country's industrial expansion and indicate the almost limitless economic possibilities of that third of the United States below the Mason and Dixon line, where sites may be found with labor, raw material, power, transportation, and water requirements for practically any type of manufacturing.

Industrial plant construction means more workers and more workers need homes, churches, stores, and the other buildings going to make up a community. These all have formed integral parts of the total valuations placed on Southern projects as reported to the Construction magazine and its daily bulletin. The States of Florida, Georgia, Maryland, Texas and Virginia, with the District of Columbia, accounted for a large proportion of the general building work, as classified by this publication.

Schools are also a necessary outgrowth of community life. The 1938 total of contracts for education building erection in the South was $99,656,000. Much of the actual construction for the projects let during the latter months of the year is being carried over into 1939, as the greater proportion of such work was contracted for within the last six months, many of the projects being pushed to comply with the Public Works Administration requirement that they be under way by the end of the year.

Sewer and water works construction, which last year in the South totaled $32,693,000, compared with $34,780,000 in 1937 and $41,595,000 in 1936, should drop during 1939, unless further Governmental stimulation is provided both for these public health facilities educational buildings and the various other types of projects under the Public Works program. Applications for Federal assistance, for which no funds are available, are now greater in number than those on hand at the inception of the current program.

Prominent building authorities indicate that the trend in building is definitely improving, but the best of seers would be unable to actually predict what is to come. The long term outlook is described as progressive, with industrial construction, and to some extent store building, awaiting consumer demand. An upswing in residential construction should occur, especially in view of the fact that a bulky proportion of the Government promoted program is yet to be placed under way. The road program should hold its own with the possibility that toll highways will swell the usual amount of construction in this field.

Statistics of the South's Construction

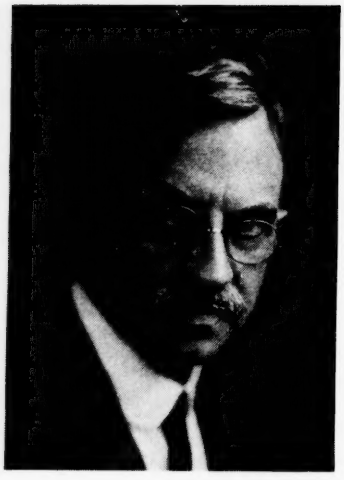
	Contracts Awarded		Contracts to be Awarded		Contracts Awarded Twelve Months
	December 1938	December 1937	December 1938	December 1937	1938
GENERAL BUILDING					
Apartments and Hotels	$3,435,000	$928,000	$3,070,000	$2,051,000	$42,810,000
Association and Fraternal	70,000	60,000	135,000	200,000	2,442,000
Bank and Office	9,120,000	545,000	1,310,000	710,000	18,821,000
Churches	435,000	316,000	1,262,000	570,000	8,242,000
Dwellings	*6,318,000	5,090,000	*33,472,000	37,422,000	69,001,000
Stores	1,808,000	2,914,000	1,456,000	4,967,000	31,137,000
	$21,186,000	$9,853,000	$40,705,000	$45,920,000	$172,453,000
PUBLIC BUILDINGS					
City, County, Government and State	$21,021,000	$6,791,000	$27,332,000	$12,665,000	$126,652,000
Schools	20,477,000	12,282,000	23,626,000	6,533,000	99,656,000
	$41,498,000	$19,073,000	$50,958,000	$19,198,000	$226,308,000
ROADS, STREETS AND BRIDGES	$24,247,000	$13,736,000	$43,678,000	$35,065,000	$211,037,000
INDUSTRIAL AND ENGINEERING					
Drainage	$5,012,000	$2,020,000	$4,032,000	$4,288,000	$40,027,000
Filling Stations and Garages	293,000	412,000	330,000	315,000	4,891,000
Industrial Plants	†15,672,000	11,270,000	†32,097,000	30,516,000	144,072,000
Sewers and Waterworks	8,269,000	2,107,000	10,871,000	6,668,000	32,693,000
	$29,246,000	$15,809,000	$47,330,000	$41,782,000	$221,683,000
TOTAL	$116,177,000	$58,471,000	$182,671,000	$141,965,000	$831,481,000

* Includes $3,660,000 Federal Housing awards; $32,057,000 proposed.
† Includes $6,524,000 public projects with industrial features, such as rural electric lines, etc.; $11,753,000 proposed.

The Development of Chemical Industries in the South

The recent expansion of Southern industries has been so rapid that it has been characterized as "explosive." In the country at large chemical industries are going forward faster than any other and this is particularly true of the chemical industries of the South.

The products of chemical industries seldom reach the ultimate consumer as such; they are passed on to other industries which use them in making finished goods. Thousands of tons of sulfuric acid are manufactured but not an ounce of it is sold in department or grocery stores. It is used in the making of fertilizer which is sold to the farmer to enable him to raise better crops. The fiddler uses a tiny bit of rosin on his bow while millions of pounds of it go into soaps and varnishes.



E. Emmet Reid

E. Emmet Reid became professor emeritus of chemistry at Johns Hopkins University in 1938 after serving with that institution for nearly 30 years. A native of Virginia, Dr. Reid received his doctorate from Johns Hopkins University in 1898. During the World War, Dr. Reid was associated with gas warfare investigations under the Bureau of Mines and is still retained as a consultant. In addition to his other activities Dr. Reid has been chemical consultant for several years to the E. I. Du Pont de Nemours Company and Hercules Powder Company, and also to the Socony Vacuum Oil Company and the Thiokol Corporation.

Chemical industries of the more elementary sort have been scattered over the South, as elsewhere, since colonial days. Sulfuric acid and other heavy chemicals were manufactured in quantity, as needed by other industries. So things went quietly along until the World War broke and made this country chemistry-conscious. American chemists and American capital went to work to produce dyes, pharmaceuticals and fine chemicals which had previously come from Germany. Then came the automobile industry with its insatiable demand for lacquers, lubricants and improved fuels. Rayon, Cellophane, cellulose acetate and the like have developed with amazing rapidity. Plastics now hold the spotlight of chemical interest. The last thirty years have seen greater chemical development than thirty centuries before. Chemical industries have grown up with the particular industries which they serve and have been concentrated in industrial regions, the most of which have been in the North and East.

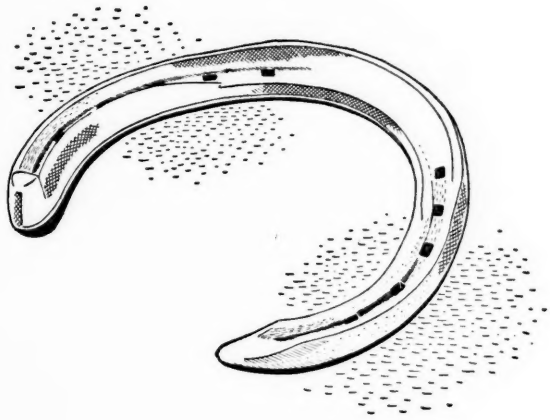
Recently decentralization of industries has been the vogue. This accounts in part for the migration of some plants and the starting of branches of others in new territory. Industrial plants are gregarious. One plant requires many things which are made in other plants. A group of plants makes an industrial center with machine shops and supplies of all kinds. It is difficult to get the first plant in a region but as soon as one comes, others come trooping in.

Certain industries are essentially southern in that they utilize materials not elsewhere available, as cottonseed from which $211,472,000 was realized in 1937 compared with $84,207,000 in 1933. Turpentine and rosin are also indigenous. Of fertilizers the South manufactures 69%. The phosphate rock comes from Florida and Tennessee and much of the product is kept at home. The industry has taken a new lease on life since it has been discovered that high grade material can be obtained by flotation from what were formerly worthless deposits. The migration of cotton mills is nearly complete. The South now produces 70% of the cotton goods of the U. S. compared with 29% in 1900. Chemical plants of various kinds have sprung up around these mills to take care of their requirements.

Just now it looks as if the pulp and paper industry will follow the example of the cotton mills, not entirely but to a large extent. The first mill to make Kraft paper from southern pine was at Orange, Texas in 1911 and its production was 20 tons per day. A second mill was built in Mississippi in 1913 and two more in Louisiana between 1917 and 1920. Others followed but it was not until 1935 that the rush began. The then largest Kraft mill in the world was built in 1936 at Georgetown, S. C., at a cost of $8,000,000 with a capacity of 625 tons per day but a Savannah mill which started with 275 tons of pulp per day has been enlarged to 1300 tons and now represents a $15,000,000 investment with a pay-roll of $4,000,000. These are only two of the many. This tremendous development has been in Kraft paper but one plant making newsprint has started and a $10,000,000 plant for making rayon from pine wood pulp is building. Much credit for all this is due to that apostle of Southern industry, the late Dr. Charles H. Herty.

New plant construction includes: $17,500,000 at Corpus Christi for chlorine; $20,000,000 at Houston, a Kraft paper mill, Portland cement and synthetic organic chemicals; $27,000,000 at Baton Rouge for ethyl fluid, caustic soda with a sodium plant in prospect, $26,000,000 at New Orleans for additional plants, $14,500,000 at Mobile for Kraft and aluminum sulfate, $14,500,000 at Jacksonville of which the most interesting item is a plant for pine pulp for rayon, $12,000,000 at Savannah largely for heavy chemicals. These, which add up to the tidy sum of $131,500,000, were selected by Mr. Lee for special mention but are only

(*Continued on page* 58)



EVEN A HORSE NEEDS TO SAVE HORSEPOWER

The purpose of a thoroughbred is to win races.

He wins by picking up and putting down four feet as rapidly as possible.

Each of these reciprocating feet is fitted with a buffer plate (horseshoe to you) which the horse has to pick up and put down about 635 times a minute.

We know a firm who sells quite a lot of racing horseshoes made of forged Alcoa Aluminum.

They cost a bit more.

But they weigh a bit less.

They get results . . . because even a horse needs to save horsepower.

Substitute your machine for the horse, and you have the essence of the weight-saving mission of Alcoa Aluminum.

Your engineers know a lot about the alloys of Alcoa Aluminum; about forgings, castings, and sheet; about fabricating, and all that. What they would like from you is a command to get tough with the excess weight they already know how to get rid of. How about it?

If before you talk with your staff, you would like to get posted on what Alcoa Aluminum might do for you, our engineers are at your call. Aluminum Company of America, 2109 Gulf Bldg., Pittsburgh.

ALCOA · ALUMINUM

Southern Electric Power Consumption Steady

Electric power consumption in the South remained remarkably steady during 1938, reaching a total of 25 billion kilowatthours as compared with 25½ billions in the previous year. This represents a decrease of only 2 per cent as compared with nearly 5 per cent for the United States as a whole, where output totalled 114 billion kilowatthours.

Electric power production set a new all-time high record for the week ending December 17th, reaching a total of 2,333 million kilowatthours and exceeding by ½ per cent the previous high record of 2,321 million kilowatthours for the week of September 4, 1937. Due, however, to the severe industrial curtailment in the United States of the early part of the year, the total electric output for the year 1938 was 5 per cent less than for the previous year. The 1938 output was 114 billion kilowatthours compared with 120 billion kilowatthours produced in 1937.

Production by water power was 41½ billion kilowatthours, a new high figure which reflected not only the results of unusually favorable water conditions throughout the whole country but also the installation of additional turbines at several of the Federal hydroelectric projects. Production by fuel burning plants totaled 67½ billion kilowatthours, as compared with 74 billion the year before.

Generating Capacity Increased by a Million Kilowatts

Exclusive of Federal projects, the generating capacity of the electric light and power industry was increased by one million kilowatts during 1938, bringing the total at the end of the year to 36,000,000 kilowatts. New construction amounted altogether to about 1,250,000 kilowatts, but this was offset by the retirement of approximately 250,000 kilowatts of older equipment, leaving a net gain of a million kilowatts. This compares with an increase of 700,000 kilowatts for 1937 and with an increase of 375,000 kilowatts in 1936, and with the high record of 2,500,000 kilowatts added in 1930, when the industry, in the face of an oncoming depression, speeded up construction in an attempt to aid employment.

Of the total 36,000,000 kilowatts of installed generating capacity on December 31, 1938, approximately 25,600,000 kilowatts, or 71 per cent, was in steam power plants; 9,700,000 kilowatts, or 27 per cent, was in water power plants; and 700,000 was in internal combustion engines.

Construction Expenditures Nearly Half a Billion Dollars

Total construction expenditures for 1938 (exclusive of Federal work) are estimated at $470,000,000, a small decrease from the $480,000,000 spent in 1937, but still barely half of the peak year 1930. Of the 1938 total, expenditures for distribution facilities—poles, wires, transformers and other equipment—again constituted the largest item, amounting to about $200 million or 42½ per cent of the total.

Construction budgets for the year 1939, as indicated by preliminary estimates, will lie between 450 and 500 million dollars.

600,000 New Customers

Some 27,765,000 customers are now taking electric service. This represents an increase of 600,000 during the year. Of those newly connected, 168,000 were farms, bringing the total number supplied with electricity to 1,410,000 at the end of 1938. This represents about 22 per cent of all farms having occupied dwellings and some 32 per cent of all farms which have dwellings valued at more than $500. In addition to the farms, at the close of 1938 there were 22 million non-farm homes and 4,250,000 business and industrial establishments using electric service.

Sales of electricity to all ultimate consumers amounted to 93,400 million kilowatthours, compared with 99,400 million in 1937, a decrease of 6 per cent. Farm consumption increased by 5½ per cent. Residential use increased by 10.7 per cent, the total for the year amounting to 18,580 million kilowatthours. Industrial power, due to the business recession, suffered the sharpest decline on record, a decline of 17.7 per cent, or from 53,556 million kilowatthours in 1937 to 44,060 million in 1938. Retail commercial service, however, did much better. It showed a gain of 5.4 per cent, from a total of 17,558 million kilowatthours in 1937 to 18,500 million kilowatthours in 1938.

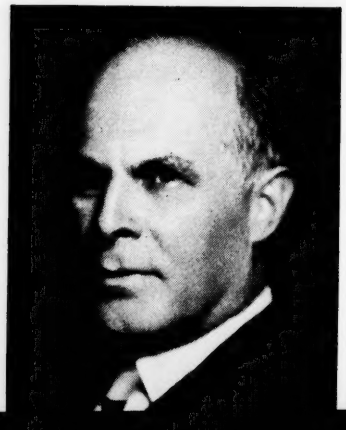
Revenues Hold Their Own

Total revenues from sales of electricity aggregated $2,173,000,000 as compared with $2,181,000,000 in 1937, a decline of only $8,000,000. Operating expenses, however, continued to grow so that net income, as measured by the companies reporting to "Moody's Manual," showed a decline of 7 per cent for the year as a whole. The last half of 1938 was, however, much better than the first half, which showed a decline of nearly 12 per cent below the first half of the previous year.

Electricity in the Home Continues Its Growth

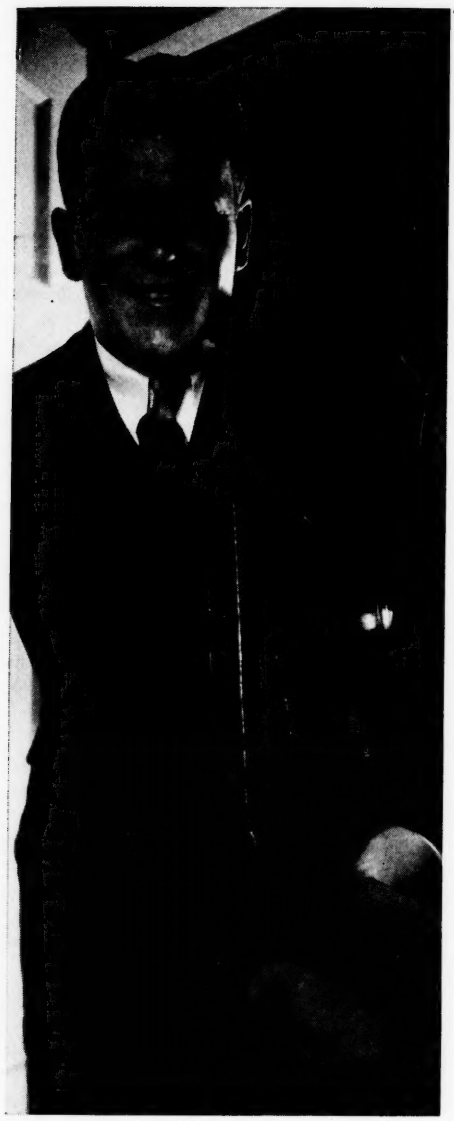
The post-war growth of electricity used in the home continued in 1938 at a rate which, while very satisfactory, was somewhat less than was the case during the previous year. Sales of electrical appliances, on account of the recession, fell substantially below the high level of appliance sales of 1937, when the domestic consumer bought over a billion dollars worth of equipment. This resulted in a

(*Continued on page* 56)



Charles W. Kellogg

Charles W. Kellogg, president of the Edison Electric Institute has spent his business life in the public utility industry. After graduation from the Massachusetts Institute of Technology in 1903, his experience in various organizations in the utility field has covered operating, finance and engineering. In 1934 following nine years as president of Engineers Public Service Company, he was appointed chairman of the Board.



MAYBE.... YOU HAVEN'T A POWER ENGINEER

THERE'S more to public utility service than supplying light, heat and power. The companies in this system also make available to their customers a trained personnel, free, for cooperation in all matters having to do with applications and uses of the services.

Thousands of industrial and commercial firms have no one to handle such matters within their organization. They don't need to. Nor do they have to hire anyone. That's what we're for. In many a case, the power, heating and lighting departments of a local operating company serve almost as one of the customer's departments. And back of them are the further related facilities of the Commonwealth & Southern Corporation cooperating in these functions of public service.

"AT YOUR SERVICE...."

Alabama Power Company
Central Illinois Light Company
Consumers Power Company
Georgia Power Company
Gulf Power Company
Mississippi Power Company
Ohio Edison Company
Pennsylvania Power Company
South Carolina Power Company
Southern Indiana Gas & Electric Company
Tennessee Electric Power Company

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Coal Outlook Discussed

More Research and Merchandizing Activity Features 1939 Plans of Coal Industry

JOHN D. BATTLE
Executive Secretary National Coal Association

Improvement Seen For 1939

The past 12 months has been a depressing period for the bituminous coal industry, both North and South, by every standard of measurement. We hope—and have some real basis for the hope—that 1939 will bring improvement. But there is no disguising the fact that the difficulties that beset the industry are severe and still far from appeasement.

The labor cost per ton, which has been more than doubled since 1933, is now at a point where profitable operation for most producers is an utter impossibility, without a much higher price for their output, than the fuel market, under existing competitive conditions, will sustain.

The tax load on the industry is twice as heavy this year as last and is headed higher still. A recent tax survey by our Association revealed that it now averages more than 12 cents per ton.

We have been rebuffed in our efforts to obtain lower rail freight rates. The strengthening and stabilization of market prices which was the premise of the Guffey coal act and the National Bituminous Coal Commission has failed, as yet, to materialize.

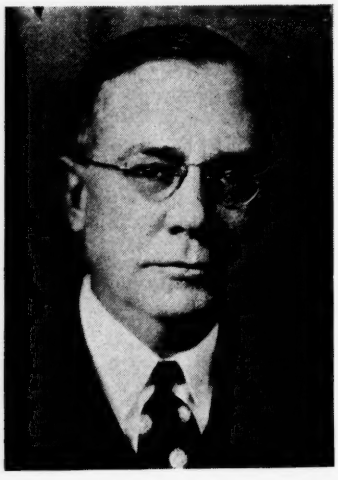
Production of bituminous coal this year for the industry as a whole is 100 million tons below last year—a 25 per cent decline which means a shrinkage of close to half a billion dollars in the gross receipts which are shared by the miners, the producers and the railroads.

Production in recent weeks has moved upward through increased industrial fuel demands, apart from seasonal, reflecting expanding industrial activity. We look for further betterment in this direction during coming months.

Sales marketing agencies within the industry, patterned after Appalachian Coals, Inc., are making headway and are a plus factor for the future. Installations of automatic coal firing equipment, particularly in the home heating field, have shown gratifying increase, reflecting the energetic sales campaign of the stoker manufacturers, with the strong cooperation of the coal producers through the National Coal Association and otherwise.

We are hopeful that the new Congress can be persuaded to bar the flood of foreign fuel oil that is so injurious to coal, and that Congress also, at long last, will apply the brakes to government promotion of hydro electric power subsidized by the Federal treasury.

One of the basic present difficulties of our industry, previously referred to, namely a labor cost per ton, far higher than the industry can support and survive, as matters now stand, will, we hope, prove possible of adjustment in a revision of the Appalachian wage agreement which expires on March 31st.



R. E. HOWE
President,
Appalachian Coals, Inc.

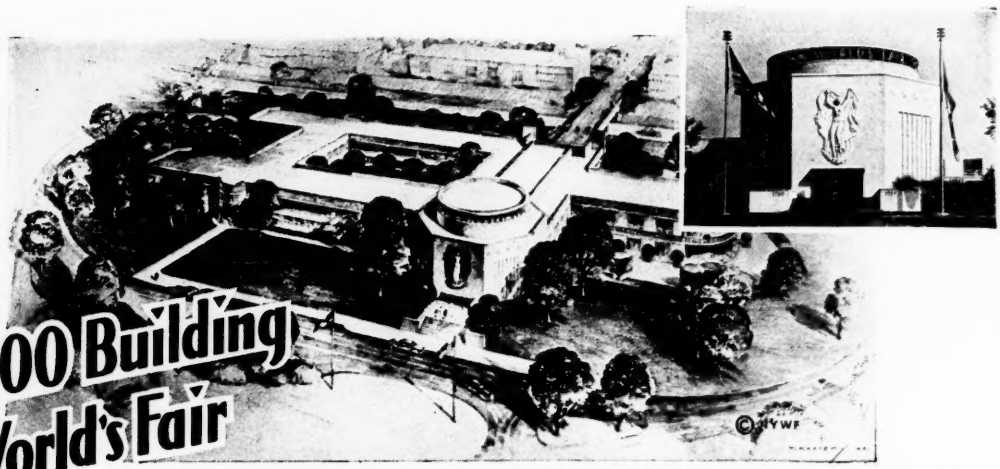
More Activity Likely for South

What is the outlook for Southern high volatile bituminous coal in 1939? That question is indeed hard to answer, for weather and general business conditions are the determining factors and each is more or less unpredictable.

However, most business indices point to favorable conditions during at least the first part of the year. Opinion varies as to how long this condition will obtain; in fact, only a few will venture a forecast beyond the mid-year period. But, with the business trend on the upswing, the tempo of the entire solid fuel industry should be quickened. Better business, with sustained operation among industries and railroads using coal, generally means more activity at the high volatile mines of eastern Kentucky, eastern Tennessee, southwestern Virginia and southern West Virginia. Add cold weather to this picture, to stimulate domestic demand, and the Southern coal operators will be fairly happy.

The industry is facing 1939 determined to obtain a better public understanding and acceptance of bituminous coal. Groundwork for this effort was laid in 1938 by the directors of National

(*Continued on page* 54)



$900,000 Building at N.Y. World's Fair uses

TRADE FRICK MARK

Keeping 700 executives and staff people comfortable in 112 separate offices, as well as when 500 of them have lunch in the cafeteria, is a job for any air conditioning system. Especially when the building administrative center for the 1939 World's Fair, spreads over 1⅓ acres and is divided into 5 zones. Each zone has its Frick Refrigerating System for air conditioning.

Let us quote on that special air conditioning, refrigerating or ice-making job of yours. Write

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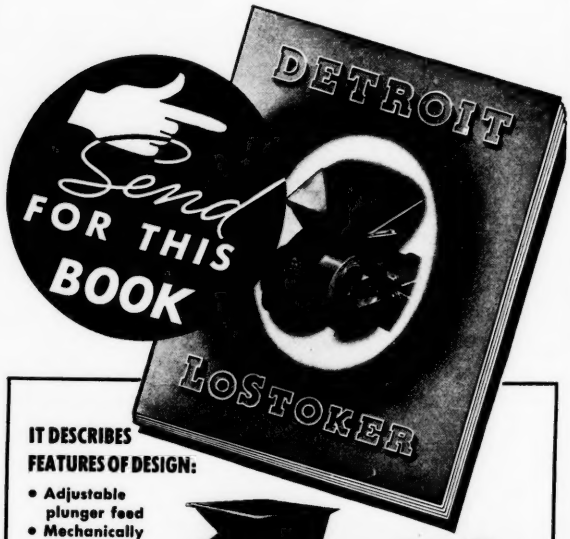

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- Adjustable plunger feed
- Mechanically driven
- Automatically controlled
- Heavily built
- Saves coal and labor

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Write For Bulletin No. 343

PROTECT your product — and reduce costs — at every point where fastening devices are required by using screws and headed parts by PROGRESSIVE. Let PROGRESSIVE items, produced efficiently and accurately by the cold upset process, show you the way to substantial savings both in original costs and in assembly operations. In addition to standard machine screws and nuts, PROGRESSIVE is equipped to meet demands for made-to-order parts in any metal. We invite you to submit your problems to PROGRESSIVE specialists for intelligent, prompt solution.

QUALITY PROMCO BRAND

The PROGRESSIVE MFG. CO.
TORRINGTON · · · CONNECTICUT

Railways of the South in 1938

(*Continued from page* 16)

ments and employees. The Board recommended to the President that the railways abandon their efforts to reduce wages by 15 per cent. Although disappointed by the report, the railways voluntarily followed the Board's recommendation. Judge Water P. Stacy of North Carolina, Dean James M. Landis of the Harvard Law School, and Professor Harry A. Millis of the University of Chicago composed the Board.

Together with railroads and other industries throughout the country, railroads in the Southern area experienced a near return to depression lows in 1938. The only bright spot in the entire year was a slight upturn in business toward the end of the year, but that trend is best described as a sluggish movement. As the year closed, viewed purely from a statistical standpoint, there was little evidence that a sustained upward trend in business was under way. However predictions are being made that 1939 levels will be higher than in 1938 but lower than those of 1937, the peak year of the depression period.

Railroads in the Southern area, comprizing 15 states southward from Virginia to Florida and westward to the Rio Grande River, took in approximately one hundred million dollars less in operating revenues in 1938 than in 1937. This was a loss of about 10 per cent. Operating expenses were reduced about $60,000,000, or about 8 per cent. These reductions compare with a decrease of 15 per cent in operating revenues for railroads of the country as a whole, and a decrease of about 13 per cent in operating expenses. In other words, the 1938 recession was not quite as severe in the Southern area as in the Eastern and Western areas.

Aside from their function as a common carrier, just what the railroads of the country mean to the 15 southern states included in this survey is shown statistically in the table below, applicable to the year 1937.

The column of figures showing railroad purchases of fuel, materials and supplies relate to purchases by all Class I railroads in the particular states, whether or not the railroad operates in those states. Thus, purchases by the railroads in the 15 southern states in 1937 totaled $194,000,000. Incomplete data for 1938 for the country as a whole indicates a decline in railroad purchases of between 35 and 40 per cent. If that rate of decline is general throughout the country, then railroad purchases in the 15 southern states in 1938 was between $70,000,000 and $75,000,000 less than in 1937. That is an important loss to industries in the South.

With regard to employees and wages, we may approximate the reduction in 1938, compared with 1937 at more than 25,000 employees and about $40,000,000 in wages.

These items make it clear, I think, that the railroads are just as important to the south as buyers of goods, as employers of men, and as payers of wages, as they are as the principal agency of transport. In addition, the railroads paid in taxes to those 15 states a total of $61,500,000 in 1937.

A healthy and vigorous railroad system will be able to buy more of the products of the south, will be able to hire more men in the south, and pay out more wages and taxes. Under present conditions, these things can only be done as bare necessity dictates. A clear and definite transportation policy, such as that outlined in the report of the six men already referred to, together with a sustained rise in general business and traffic levels, will start the railroads on the road to recovery. Constructive and intelligent legislation, such as recommended in the report, will speed the railroads toward that goal. The year 1939 can well be a red-*letter* year, as contrasted to recent red-*ink* years, in the annals of railroad history in the United States.

State	*Railroad Purchases of Fuel, Materials and Supplies*	*Number of Railway Employees*	*Wages and Salaries of Railway Employees*
Alabama	$23,439,404	16,572	$22,743,352
Arkansas	6,765,319	15,069	19,245,131
Florida	3,852,657	13,219	19,006,049
Georgia	5,562,800	24,563	33,672,143
Kentucky	18,642,183	30,761	45,598,184
Louisiana	9,451,971	13,894	18,694,244
Mississippi	5,728,669	10,492	14,187,188
Missouri	28,400,514	41,402	63,454,712
North Carolina	2,248,521	16,547	23,598,573
Oklahoma	9,636,622	12,220	17,008,285
South Carolina	2,300,723	8,257	10,703,414
Tennessee	9,310,054	22,987	35,293,418
Texas	23,070,759	50,656	79,286,059
Virginia	10,787,439	33,600	49,313,542
West Virginia	34,780,919	24,452	37,615,703
Total	$193,978,554	334,691	$489,419,997

Interpreting America's Opportunities

A new series of radio talks by the American Rolling Mill Company, known as the "Ironmaster" talks will be heard on a coast to coast hook-up starting Sunday, January 15 over the Blue network stations.

The program as outlined will interpret the advantages of free individual enterprise and the American competitive system. It is announced that they will show why opportunities for leadership in American industries are greater than ever before.

This company has a remarkable record in its relation with employees. For almost 40 years it is said that no employee has lost an hour of wages or the company a pound of production because of labor difficulties.

More Advertising in 1939

A survey conducted by the Association of National Advertisers reveals that 50 per cent of the national advertisers plan to spend 15 per cent more for advertising in 1939 than in 1938.

Eighty-four per cent of the companies questioned anticipate better sales next year than this. The list questioned covered 182 leading manufacturers who spend from $50,000 to over $1,000,000 each annually for advertising purposes, and are exclusive of automobile and cigarette manufacturers.

Newport News Shipbuilding Appointments

The Newport News Shipbuilding and Dry Dock Company announces the retirement of Mr. James Plummer, Purchasing Agent, after 48 years service. The retirement will be effective at the expiration of an extended leave of absence beginning January 1, 1939. Mr. H. K. Peebles has been appointed acting Purchasing Agent, with office at the plant at Newport News, Virginia. Mr. J. M. Clawson, Assistant Purchasing Agent, will continue to be located at 90 Broad Street, New York, N. Y.

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BALTIMORE, MD.

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A COMPLETE ORGANIZATION

Our complete organization with years of experience in successfully executing large construction contracts of various kinds is prepared to undertake the construction of earth, masonry and concrete dams, drydocks, dredging of all kinds, river and harbor improvements, deepening channels, hydraulic filling and rock work, tunnels, railroad construction, sewers and waterways.

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BALTIMORE, MD.

Branches: BROOKLYN, N. Y.—MIAMI, FLA.

1938 in the Petroleum South

(*Continued from page* 21)

manufacturing capacity was 1,733,300 barrels, or 44% of the total. In value of products, and in economic importance to the South, the manufacturing branch of the petroleum industry ranks high In the last Census of Business by the U. S. Department of Commerce, for example, refining led all other Texas manufacturing industries by a wide margin. Last year, it is estimated, this branch of the industry alone employed 52,800 workers in the South with wage rates and working hours among the most favorable.

The public, South as well as elsewhere, best knows the petroleum industry through its marketing branch. Thousands of wholesale bulk plants and tens of thousands of service stations blanket the South, providing motorists and other consumers with uninterrupted service. These distributing agencies employ thousands of workers, and represent an investment of many million dollars—paid chiefly to local business and labor. In many communities, the service stations represent the newest and most active retail outlets.

Besides making these direct income contributions, the petroleum industry provides the entire nation with more than 300 products that affect the daily well-being of every citizen. Motor fuel for automobiles, trucks, busses, airplanes, tractors, boats, stationary engines; kerosine for illumination, heat, cooking, and power; fuel oil for heat and power; lubricants that keep the wheels of industry moving; asphalts and road oils for highways; and hundreds of by-products that are concealed in the most unexpected commodities—textiles, soaps and solvents, paints and plastics, cosmetics, fruit preservatives, insecticides, etc.

The South's new and rapid development of its industrial frontiers places new and greater dependence upon its crude oil and refined petroleum products. It is difficult even to estimate total consumption by Southern industries and businesses, by Southern homeowners and farmers. Yet consumption of motor fuel may be regarded as an index. It is estimated that in 1938 the 16 Southern states consumed 5,710,000,000 of the total 21,693,000,000-gallon demand of the entire United States.

The petroleum industry makes a third direct and important contribution to the economy of the South, and proportionately it ranks as high as the other contributions. From levies upon the oil as it lies beneath the surface of the earth, through every movement oil makes on its route from well to refinery to storage to consumer, the petroleum industry, its products, and its customers pay and pay and pay in taxes.

While the number of types of petroleum taxes exceeds 200, the most obvious, as well as the most costly levy, is the retail sales tax on gasoline. In fact, there are several such taxes. Levied primarily by the states, they are duplicated by federal, county, and municipal governments. The South has more than its share of gasoline tax duplication. In no other section of the country do counties and municipalities help themselves so expansively and expensively.

No estimate is available of the cost of the local levies, but in 1938 the Southern states collected nearly 35% of all state gasoline taxes collected in the United States. This is equivalent to $262,100,000 of the estimated 1938 total of $758,177,000 in state gasoline taxes. Nor does this total include the duplicating federal tax on gasoline, to which the Southern motorists contributed their full share.

Southern states stand to benefit by state gasoline taxes. Theoretically these levies finance the construction and maintenance of state highway systems. But highway transportation is being penalized more severely in the South than in any other section, first, by high gasoline tax rates, and, second, by diversion of the revenue to miscellaneous purposes. Sales taxes amounting to 50% or more of the retail price would be considered onerous by the buyer of any commodity, and with the further development of the South dependent so greatly upon highway transportation it is obvious that excessive taxation of the motorist is an economic handicap of no inconsiderable importance.

Recent studies of highway needs of Southern states, made cooperatively by state highway departments and the U. S. Bureau of Public Roads, may point the way to more economical development of necessary roads, financed by reasonable state gasoline taxes and registration fees, and completed the more rapidly by the dedication of all automotive tax revenues to highway financing. However, the building of roads is not alone sufficient. Taxes must be so reasonable that the people of the South, like the people of other sections, may be financially able to make the most and best use of them.

Year by year petroleum becomes an increasingly important, diversified, and remunerative "Southern crop," but while it may be impervious to the ills to which aboveground crops are such easy prey, at the same time it is subject to economic vicissitudes. Tended wisely and encouraged, it is highly productive of employment, wages, returns on investment, tax revenues, and a host of essential commodities. Treated unwisely, this great resource, with the industry builded about it may become just another lost economic hope.

T. C. I. Salary Adjustments

The Tennessee Coal, Iron and Railroad Company of Birmingham, on January 1 restored full time salary, based on five and one-half days per week to salaried employees whose duties require them to work the full work week. Those whose work does not require the full five and one-half days will be paid on a part time basis.

This is in line with the policy being followed by all manufacturing and mining subsidiaries of the United States Steel Corporation.

The Company also announces that single-turn operation were resumed January 2 at Wenonah No. 8 ore mine, idle since July 15, 1938. Extensive repairs and improvements have been made at the mine and the increase in ore production will give employment to approximately 150 additional men. All of the company's eight ore mines are now in operation—six of them on double-turn operation and two on single-turn.

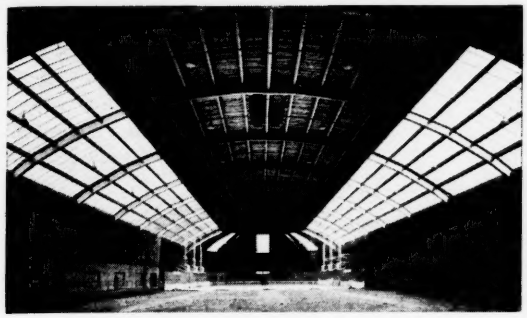
An Important Survey

Dun & Bradstreet, Inc., announced their purpose of conducting a nation-wide survey beginning early this month to determine the facts about the tax load on business which has grown heavier in recent years and "frequently absorb a large part of potential profits."

It is being done in the belief that business men are not aware of "which industries carry the heaviest burden; whether small, medium or large concerns, or how much tax is Federal, how much state and local."

There are other points to be taken into account, the statistical division announces. "Is business forging ahead, holding its own or slipping backwards? Have sales improved as much as generally reported? Are inventories being depleted or are warehouses and shelves still overstocked?"

It is announced that two million questionnaires will be sent out to business concerns and the cooperation of the business community is asked, both in the speed of the reply and the fullness of the answers.



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Also used with excellent results on sidewalls, marquises, canopies and wherever daylight is needed.

Our Engineering Service Department can aid you on your skylighting problems. Write or wire.

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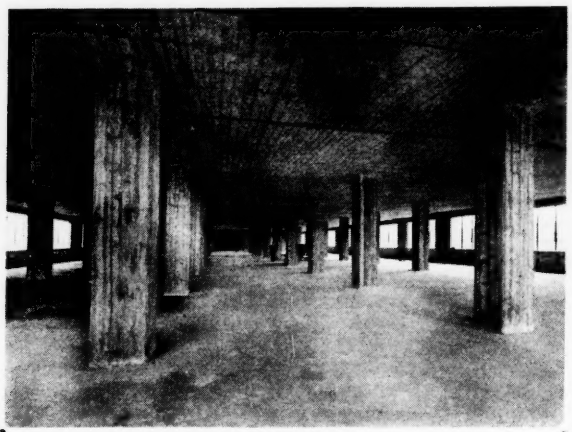

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NO CAPITALS or DROP PANELS
CEILINGS ALL CLEAR.
EMBEDDED STEEL COLUMN HEADS
SUPPORT THE FLOOR SLABS
IN THIS NEW TYPE FLAT SLAB
FLOOR CONSTRUCTION.

See Sweet's Architectural Catalogue.

"SMOOTH CEILINGS" SYSTEM, PTD.
802 Met. Life Bldg., Minneapolis, Minn.

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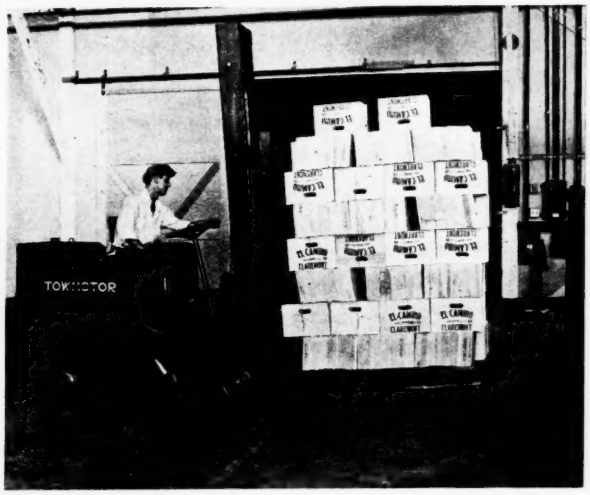

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PIONEERS OF STRAIGHT GAS POWER SINCE 1919

Atlanta and Gulf Coasts Shipbuilding During 1938

(*Continued from page 33*)

Bethlehem Steel Co. (Brooklyn)	10 Ash Barges	6,300
Brewer Dry Dock Co.	10 Ash Barges	6,300
Federal Shipbuilding & D/D Co.	3 Oil Tankers	34,500
	12 Cargo	97,800
Liberty Dry Dock Co.	1 Tug	150
John H. Mathis	2 Lighthouse Tenders	1,400
Pusey & Jones Corp.	1 Army Dredge	3,800
	1 Lighthouse Tender	700
Rice Brothers	1 Fireboat	115
Sun Shipbuilding & Dry Dock Co.	10 Cargo	80,000
	4 Oil Tankers	45,900
Todd Shipyards (Robins)	1 Barge	140
		338,745
BELOW MASON AND DIXON LINE		
Bethlehem Steel Co. (Sparrows Pt.)	7 Oil Tankers	70,200
	3 Comb. Pass-Cargo	24,900
Maryland Dry Dock Co.	1 Derrick Lighter	....
Newport News Shipbuilding & D/D Co.	1 Passenger	24,800
	3 Oil Tankers	34,500
	4 Cargo	29,600
		184,000
GULF COAST		
Lester F. Alexander Co.	1 Oil Barge	345
Canulette Shipbuilding Co.	1 Towboat	600
	1 Oil Barge	290
Gulfport Boiler & Welding Works	2 Tugs	300
Levingston Shipbuilding Co.	1 Tug	115
	3 Deck Barges	870
	1 Ferryboat	320
Pennsylvania Shipyard, Inc.	1 Oil Barge	245
Tampa Shipbuilding & D/D Co.	4 Cargo	29,600
		32,685

RECAPITULATION

	1938 *Gross Tons*
East Coast	
Above Mason and Dixon Line	338,745
Below Mason and Dixon Line	184,000
Gulf Coast	32,685
GRAND TOTAL:	555,430

Of the thirty-eight Naval Vessels of 207,250 displacement tons under construction in the private yards in the United States on January 1st, 1939 no less than 48,000 displacement tons are under construction in yards south of the Mason-Dixon Line.

Southern Pulp & Paper Industry Review

(*Continued from page 62*)

The Johns-Manville Corporation will shortly complete their mill at Jarrett, Va., for the production of insulating board from wood pulp.

At the close of the year the Southland Paper Mills at Lufkin, Texas, was preparing to break ground for what will be the first newsprint mill in the South with an investment of $6,000,000.

While the loss of Dr. Herty in 1938 was keenly felt throughout the South his vision and dream as to the future of newsprint made from Southern pine is now to be actually materialized along the lines he advocated through his research.

The Crossett Paper Mills, Crossett, Arkansas, have expension work under way to improve their present operations by an addition to their power plant, and are providing facilities for bleaching and the extraction of by-products which will call for an outlay of approximately $750,000.

The United States Gypsum Co., have also announced that plans are ready for construction of their mill at Jacksonville, Fla.

While active construction has not yet started, it is reported that the Hollingsworth & Whitney Co., are preparing to build a mill at Mobile, Ala., and that the Regal Paper Co., are considering location of a plant at Wilmington, N. C. The American Cyanamid have plans under way for a plant at Georgetown, S. C., and the A. P. W. Co., are also negotiating a converting plant in the South.

While the production of the majority of these Southern mills is in the form of kraft bags, wrapping paper, liner and box boards, it is interesting to note that the newer developments are showing considerable diversification in the production of bleached sulphate pulp, newsprint, cigarette paper and other specialties. The research work now being done also indicates that the manufacture of white papers from Southern hard woods as well as pine has vast possibilities and is opening up a new field for specialty grades.

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Textile authorities for some time have been experimenting with Ramie, and all agree that it is far superior to any other known vegetable fiber. And now comes the report that a machine for separating the fiber is near perfection, which machine also renders the base residue into a by-product suitable for insulation and for manufacturing into an excellent building board.

Thus we anticipate another industry for Florida "sprouting" directly from its soil with the aid of science and mechanical engineering skill.

It is hard to estimate the value of such an industry in its infancy. With our soil especially adapted to growing the raw product and our climate and general conditions ideal for manufacturing; a great Florida industry should develop under these most favorable conditions.

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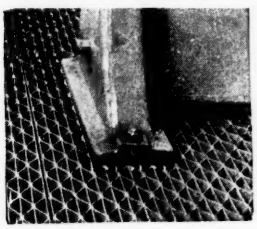

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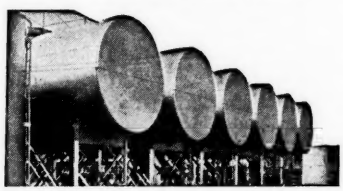

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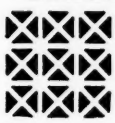

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Coal Outlook Discussed

(*Continued from page 46*)

Coal Association, the nationwide organization of bituminous coal producers, who in July pledged support for a "campaign among all those interested in the coal industry to do whatever is necessary to restore coal markets." Thus, with the Southern operators expected to play major roles, the new year will see greater marketing and merchandising activities. The campaign to promote the use of bituminous coal, begun only a few months ago, will be carried on even more vigorously.

The states of Kentucky, Tennessee, Virginia and West Virginia are important sources of bituminous coal. In all, these four Southern states are sources of 184 million tons or about 42 per cent of the Nation's annual production.

One significant development of 1938, which will be watched with interest next year, was the increase in the number of regional marketing agencies. Appalachain Coals, Inc., the pioneer, Alabama Coals, Inc., Fairmont Coals, Inc., Kentucky Coal Agency, Inc., Middle States Fuels, Inc., Smokeless Coal Corporation, Southern Illinois Coals, Inc., and Western Pennsylvania Coal Corporation, all approved by the National Bituminous Coal Commission, are the agencies active at present. Their continuous, aggressive function is to place each grade of coal in the market where it belongs and to offer it to the consumer whose needs it will best serve.

More research also is expected to be on the industry's 1939 calendar. If the coal industry is going to survive and prosper in years to come it will be only through finding new uses and outlets for coal.

New Outlets Expected

Herbert S. Salmon
President,
Alabama Coals, Inc.

The low state of coal consumption in this area during 1938 was not the result of competition from other fuels and sources of energy to any greater degree than in the immediately preceding years. It has resulted from the inability of its normal customers to purchase coal.

An analysis of the past is necessary as a basis for future planning. The question before every coal operator in the Southeast is: "To what market, for what uses, and in what volume will my coal move in 1939?" In the past, coal produced in this area has been distributed for the following uses: railroad, metallurgical, electric power generation, industrial power and processing, domestic uses, and gas making.

Distribution of coal for most of these uses will follow the trend of general business. Therefore, the primary hope of the industry lies in general business recovery. Following recent studies by the railroads of the competition of coal in its various markets, needed adjustments have been made in transportation charges that will help stem the loss of tonnage to producers and carriers.

Coal for electric power generation has been displaced in much of this area by the widespread network of hydro-electric transmission lines. Hydro-electric development by private interests reached its peak and was probably concluded before the present depression, and the tremendous improvement in economy of steam electric generating equipment has definitely precluded further investment of private capital in hydro-electric projects where coal is available. Government subsidized electricity will make further inroads on coal in 1939, not only in the distribution area of TVA, but in areas serviced by private utilities who will make aggressive efforts to replace business lost to TVA.

Coal will find its greatest improvement in new outlets among industries now using hydro-electric power but requiring steam for processing purposes. The economy of steam generation of electricity with processing steam as a by-product will doubtless lead to investments which have been deferred on account of the depression. Another trend will be noticed with better business—the rehabilitation of obsolete coal burning plants. In the Southeast there are relatively few large modern coal burning plants and much of the industrial coal is used in old, inadequate and uneconomical equipment. With any increased business activity the coal industry in this area must be in position to lend assistance to small manufacturers in the proper selection of fuel burning equipment. It must meet the well organized competition of natural gas and fuel oil in supplying technical information in the design of new plants.

There is little probability of improvement in the marketing of coal for the manufacture of gas. Gas plants in the Tennessee Valley area will find TVA electricity replacing gas for cooking, water heating and even for space heating.

The Coal Industry will find in 1939 little opportunity for increasing its realization because of aggressive competition from fueloil, natural gas, and subsidized hydro-electricity. With a stationary or declining price it will be faced with the vital question of cost increases. The hope for the ensuing year lies solely in renewed general business activity, with resulting increased demand for railroad and industrial use, and for domestic stoker use.

Future Rests On Business Recovery

Jesse V. Sullivan
Secretary, West Virginia Coal Association, Charleston, West Virginia.

Hope and expectation for improvement in the bituminous coal industry of the South and the nation in 1939, rests primarily on the continuation of industrial recovery, the fires of which were rekindled in the fall of 1938. Full restoration is more difficult now for the reason that business and industry has been burdened and oppressed by new federal statutes affecting wages, working conditions, and even managerial functions that are impractical and retard recovery.

A most hopeful sign on the horizon of recovery is the belief that the American people are becoming more appreciative that it is an economic injustice to oppress the bituminous coal industry with the artificial handicaps of governmental and political control and permit fuel substitutes to enter the consuming markets unrestricted and uncontrolled by governmental bungling.

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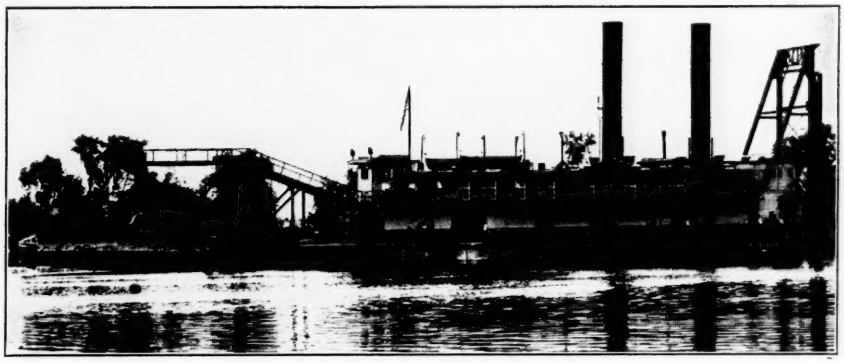

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Fertilizers in the South in 1939

(*Continued from page* 38)

ville, Tennessee. This Committee, appointed as a result of the controversy between the Directors of the Authority, has heard evidence on both the power and the agricultural phases of the Authority's operations. It is quite evident that the agricultural demonstration program of the TVA has been worth while in showing the farmers of the Tennessee Valley how to control soil erosion so as to conserve their natural resources through better farming practices and through the growing of soil-conserving cover crops. Testimony before the Committee did not show that the chemical research work of the TVA had resulted in the production of any hitherto unknown products or any essentially new processes. They have materially improved electric furnace methods for the production of phosphorus. They have perfected quantity production of calcium metaphosphate, a concentrated phosphate of distinct possibilities for direct application to acid soils, although its utilization as an ingredient of mixed fertilizers or for direct application to neutral or alkaline soils is as yet unproven and is in fact very doubtful. It is significant that the Chief Chemical Engineer of the Tennessee Valley Authority, in his testimony before the Committee, stated that he did not believe it was possible for the Government to produce nitrates, available phosphates, or other fertilizers by any process as cheaply as can private industry.

The TVA produced and distributed approximately 50,000 tons of concentrated superphosphate this past year. Something like 20,000 tons were distributed to the farmers of the Tennessee Valley in the TVA educational program, the farmers paying only transportation and handling costs. Over 30,000 tons were sold to the Agricultural Adjustment Administration and distributed by it in lieu of grants in aid under the Soil Conservation and Domestic Allotment Act. The distribution of superphosphate by the Agricultural Adjustment Administration is the third Governmental activity referred to above. Under the Soil Conservation program certain grants in aid are paid for conformance to specific practices on the farm. The use of available phosphoric acid with clover and permanent pastures and other soil-conserving crops entitles the farmer to certain payments. In lieu of such payments, the AAA offers to furnish concentrated superphosphate and deduct its cost from the farmer's earned allotment. Some 68,000 tons of concentrated superphosphate were so distributed in 1938. The superphosphate obtained from the TVA and so distributed is "sold" in direct competition with that of private industry.

As the average content of available phosphoric acid in superphosphate is about 18 per cent, 68,000 tons of 45 per cent goods displaces about 170,000 tons of the normal superphosphate.

Private industry is able and willing to supply at reasonable prices all the plant food needed by agriculture. In the spring of 1938, on two weeks' notice, private manufacturers of concentrated superphosphate (often called triple superphosphate) tendered the Government over 50,000 tons, binding themselves to supply it although the Government did not bind itself to buy. This fall, in response to a request for bids on 75,000 tons, the industry tendered 81,500 tons, much of it at prices below those at which TVA transfers to AAA were being made.

There is no need and no justification for Government production and distribution of fertilizers. The South, both producing and consuming the major quantity of our plant food carriers, is vitally interested in this phase of Government competition with private industry.

The Cotton Textile Outlook

(*Continued from page* 31)

from 1937 was nearly two billion yards. While the inventory of cotton goods held by the mills was smaller at the end of the year than at the beginning it is larger than normal, at the same time it will fall far short of filling the vacuum created by under-production and under-buying of cotton goods during 1938.

There is also uncertainty regarding a processing tax on cotton goods. Rumors persist that a determined effort will be made in Congress to renew this tax. The industry is hopeful that the threat can be repulsed and there are several factors that make it illogical procedure. First is that it constitutes a heavy sales tax, through hidden, on necessary articles of wearing apparel and household use. The pyramiding of such a tax at the source of manufacture cannot be avoided as cotton passes into the different stages of manufacture and into the channels of distribution. For example, it was calculated that the former processing tax of 6 cents per pound became ultimately a sales tax of 13 cents on a pair of overalls. Furthermore, demand for cotton goods is bound to be diminished by the higher prices that a processing tax would occasion, particularly if it is levied coincident with the imposition of higher labor costs through the operation of the Fair Labor Standards Act. Since the Government has loaned about one-half billion dollars to cotton farmers on 10,700,000 bales of cotton that it is carrying for them and naturally looks forward to the time when the price of cotton will be high enough to enable farmers to repay these loans, any discouragement of normal demand for manufactures of cotton will be inconsistent with Government commitments.

Trade Treaty With Great Britain

The trade treaty with the United Kingdom, which became effective January 1st for an initial period of three years, adds further uncertainty to those mills manufacturing finer grades of cotton goods. The tariff reduction on grey cloth (not bleached or otherwise finished) range from 25% to 28%, but these reductions apply only on cloth with a foreign value of more than 70¢ a pound. The trade treaty with the United Kingdom also reduces the tariff on some high count cotton yarns made in North Carolina and will thus subject these domestic yarns to greater foreign competition. On the other hand, the trade agreement with Canada *reduced* Canadian duties on many important products of American cotton mills. For example, the duty on cotton blankets into Canada was reduced to 5¢ a pound plus 20% ad valorem from 25¢ a pound plus 30% ad valorem that prevailed prior to the agreement. These concessions by Canada have led to hopes that sales of American cotton goods to that country will approach the substantial volume reached in 1929.

Southern Electric Consumption Steady

(*Continued from page* 44)

somewhat smaller increase in electricity consumption.

The average annual use per residential customer in 1938 rose to 850 kilowatthours a year from 793 in 1937 and 727 in 1936. The average revenue per kilowatthour for residence use continued further its decline to 4.20 cents, compared with 4.39 cents in 1937.

The average farm use in areas where little or no irrigation is involved rose from 1,014 kilowatthours in 1937 to 1,045 kilowatthours in 1938, and the average revenue per kilowatthour dropped to 4.5 cents from 4.72 cents in 1937.

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Southern Pine Industry In Sound Statistical Position

(*Continued from page* 26)

November the average price reached $25.37, a gain of 12% over October and a gain of about 4% over November, 1937. November was the first month in 1938 to rise above the previous year. The November price was 11% below the weighted average of $28.45 recorded for the full year of 1937.

The cost to produce, ship and sell Southern pine in 1937, based on returns from 69 large mills, amounted to $24.99 per M. If cost, following application of the wage-hour law, is increased by no more than 10% (a very conservative estimate) this would run the 1937 average to $27.50 per M, or probably higher because of smaller production in 1938. This group of large mills, to break even, would have to realize an average price of $27.50 and to earn a conservative 10% on sales, the average price would have to rise to about $30.50. A break-even would involve an increase of 8% over the November price, and a profitable return on the average would involve a 20% increase over November. Of course, much depends upon what can be done by management or mechanical process to lower costs. But if cost becomes fixed at higher levels and market fails to respond, mills in the group incurring costs in excess of the average cost would be put in the untenable position of having to sacrifice their production. Thus, close to one-half of the total output, total man-hours of work, and total payrolls, would be demoralized, with serious effects on both capital and labor. This possibility it is hoped can be averted through better understanding and appreciation of producer and consumer relations, and a consequent disposition by the consumer to pay his part of the price of the wage-hour law and other social reforms.

The recent sharp gains in business generally and the stimulus this may afford consumers to respond to advancing price levels, should reflect favorably in the lumber industry.

The Southern pine industry, if it can surmount problems imposed by the wage-hour law, should find 1939 a year of opportunity and its 1939 record should excel that of 1938, provided industry and trade generally are able to expand and profit from their operations. Beyond this no one can predict the future for any industry. All must advance or the laggards will hinder the progress of others. So far, with the reservations noted, the outlook is bright and the most conservative authorities seem willing to predict results of 10 to 20% above 1938.

The Development of Chemical Industries in the South

(*Continued from page* 42)

items. New plants and additions to old ones are going up all over the South. It is estimated that the pulp and paper industry of the South will require 300,000 tons of chlorine, 800,000 tons of salt cake with comparable amounts of other heavy chemicals. Plants for these are following the pulp mills.

The advantages of the South are being advertised as never before by the Southeastern Governor's Conference and by Chambers of Commerce and other agencies in the several states, some of which are offering tax exemptions and other special inducements to new industries.

A politician has characterized the South as America's "No. 1 economic problem"; a South Carolina chemist, who has looked into the matter, believes the South to be the "No. 1 economic opportunity." Those who have money to invest in plants seem to agree with the chemist.

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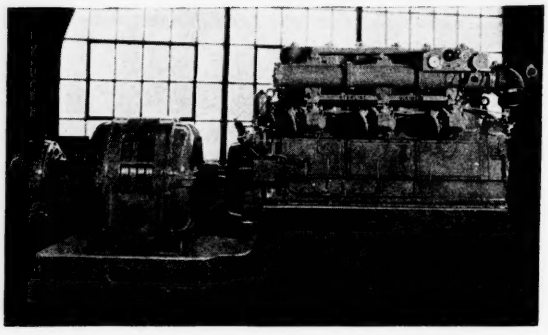

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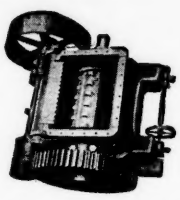

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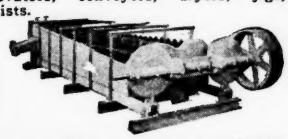

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Southern Finance—1938

(*Continued from page* 34)

the State of Alabama showed a reduction of $2,109,000 in its bonded debt. It is encouraging that in 1938 the trend toward a better control of municipal financing was uninterrupted.

It is also worthy of comment that many of the smaller communities have been able to finance needed improvements at record low levels of interest rates, which should, in turn, be reflected in giving the tax payer more service for his tax dollar. It is difficult to measure in terms of dollars the economic benefits which will be derived over a long period of years from the various health and sanitation projects which are being completed by many of the small Southern municipalities. One of the most important factors hindering Southern progress has been the lack of satisfactory sanitary and water supply systems in the smaller communities.

However, the smaller community must be particularly careful to keep its debt in line and within the ability of the community to meet bond maturities as they fall due. Although many communities have benefited from the Government's policy of giving outright a portion of improvement costs, there are many smaller communities which may have taken advantage of this to such an extent as may prove embarrassing in later years. At the present time it is well to exercise greater caution in undertaking new projects, especially where a community has already bonded itself to pay for improvements now completed. Naturally, in the smaller communities it is particularly important that the improvements be of a self-liquidating nature, or be of such lasting benefit to the community as to be worthwhile over a period of years. All communities should avoid "luxury" improvements which seem cheap now because of low interest rates and outright grants.

Although it is dangerous to make predictions based on the immediate past, it would be surprising if the upward trend in business and general economic conditions, which had its beginning about the middle of 1938, were suddenly reversed in the early months of 1939. Low commodity prices are the single greatest disturbing factor of importance. The development which would insure a continuance of business at the present or higher levels would be to have the Government place its finances on a sounder basis and make strenuous efforts at bringing disbursements within its receipts.

With these exceptions, and with the further unpredictable contingency that we will be affected by foreign developments in the coming year, certainly we enter 1939 with a more hopeful outlook for business than was true in the early months of 1938.

The Cottonseed Situation —1938

(*Continued from page* 36)

theory that, if such plans benefitted the growers, any loss which the industry might suffer might be justified from the viewpoint of the general welfare. If cotton farmers can't prosper, neither can we. Five years of controlled production, however, have brought the Southern farmer little further along the road to prosperity than he was at the beginning, and the cotton problem is far from being settled. To argue that the cotton grower is better off than he would have been without controlled production is pointless since no one can estimate what would have happened otherwise.

Possibly it would be well to spend less time and money in restrictive measures, and to enlarge our efforts to increase yields of cotton per acre and reduce cost of production. Practice diversified farming by growing our own food and feed.

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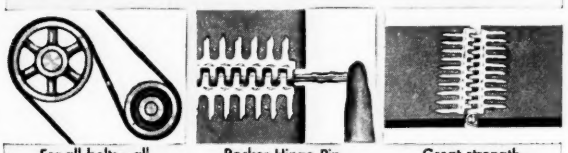

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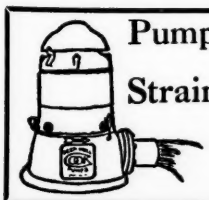

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The Steel Industry In 1938

(*Continued from page* 12)

which had long existed at certain basing points, together with the establishment of numerous new basing points for various products.

The full ultimate effect of such changes in the basing point method of quoting prices is not yet apparent, especially with respect to competition, distribution of business among competitors and the location of plants of steel producers and steel consumers.

During 1938, the steel industry continued to spend large sums for modernization and improvement of its productive equipment. The industry allocated approximately $165,000,000 for this purpose during the year, largely for finishing facilities. This made the total of such expenditures for the four years from 1935 through 1938 approximately $840,000,000. As a result it is probably safe to say that at the end of 1938 the steel industry's plants were in better condition to take care of a large volume of business at lower prices for higher quality products than ever before in the history of the industry.

The steel industry enters 1939 with better prospects than those of a year ago despite the continued influences of some retarding factors, among which lack of railroad buying, little activity among the utilities, and foreign uncertainties are prominent.

Southern Pulp and Paper Industry Review

(*Continued from page* 25)

be completed in 1939 is that of America's first cigarette paper mill at Brevard, North Carolina. The Ecusta Paper Corporation is to be the operating company associated with the Champagne Paper Co. now producing cigarette paper in France where the majority of this product has previously been made.

Rayonier, Inc., have under construction at Fernandina, Fla., a bleached sulphite pulp mill which will be used for staple fibre products. This being one of the first real sulphate mills in the South.

(*Continued on page* 52)

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